ORDER NO. KM48806698C1
F1

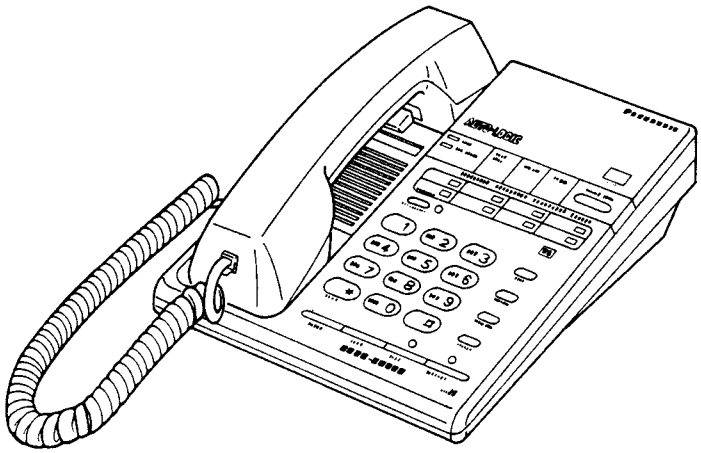
Service Manual

and Technical Guide

AUTO-LOGIC™
EASA-PHONE®
ITS Integrated Telephone System

Telephone Equipment

KX-T2632



SPECIFICATIONS

General:

Power Source:	AC; AC adaptor KX-A11 (DC 12 V)
Power Output:	350 mW (max.)
Speaker:	Unit; 6.5 cm ($2^{1}/_{2}$") PM dynamic Handset; 2.6 cm ($1^{3}/_{16}$") PM magnetic type
Microphone:	Condenser microphone
Jacks:	Telephone line, DC IN
Dimensions:	164 (W)×216 (D)×97 (H) mm (with handset) ($6^{15}/_{32}$" × $8^{1}/_{2}$" × $3^{13}/_{16}$")
Weight:	0.97 kg (2 lbs 2.22 oz)

Telephone Section:

Memory Capacity:	26 telephone numbers, up to 16 digits for each station
Dial Speed:	Tone (DTMF)/Pulse (10 pps)
Redial:	Last dialed telephone number up to 15 times in 10 minute period
Pause:	Two automatic dial tone detectors

Tape Deck Section:

Outgoing Message (OGM):	Recorded on a microchip. Recording Time is 16 seconds.
Incoming Message (ICM):	Micro Cassette (MC-30) (1 MIN/VOX/AO)
Tape Speed:	2.4 cm/s
Wow and Flutter:	0.58% (WRMS)
Motor:	Electrical governor motor

Design and specifications are subject to change without notice.

Panasonic

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50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
99-859 Iwaiwa Street
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

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Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

When you mention the serial number, write down the 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

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LOCATION OF CONTROLS

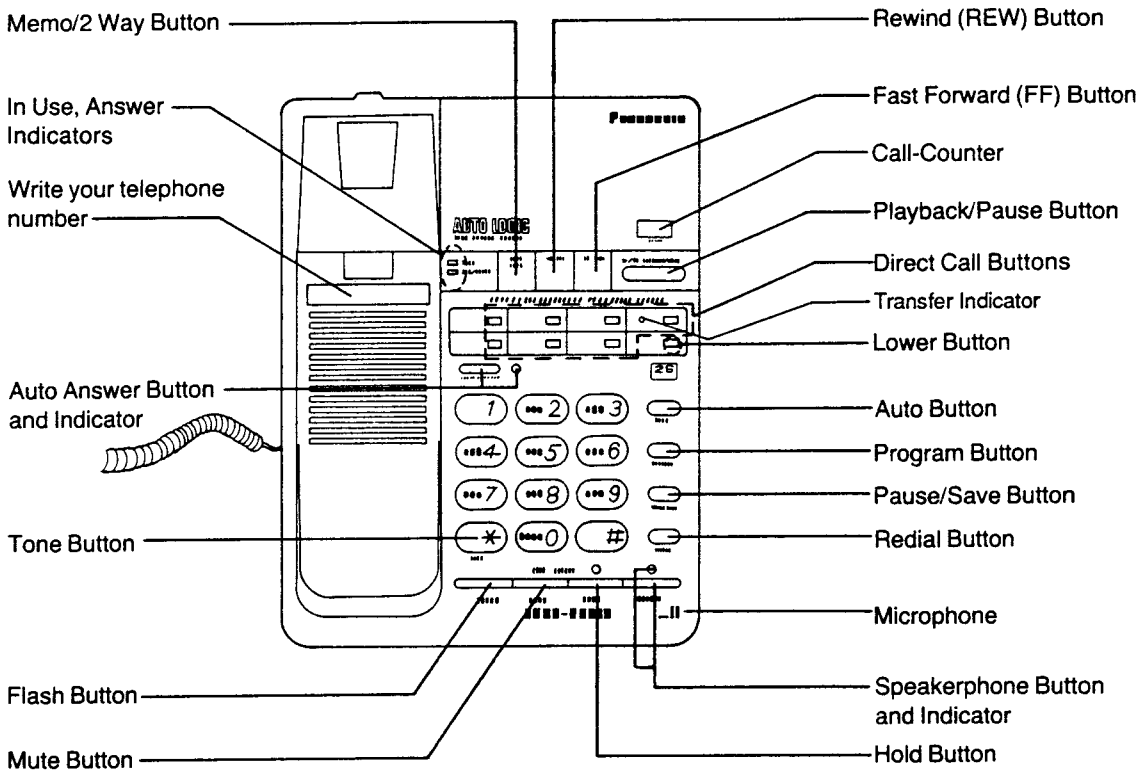


Fig. 1

OPERATIONS

Manual Dialing and Receiving

DIALING

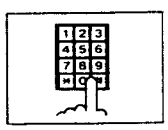
Using the Handset

1. Lift the handset and dial the phone number.
2. Talk with the other party.
3. Hang up the handset when finished conversation.

On-hook Dialing

1.

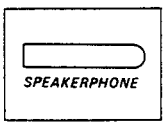
Push **SPEAKERPHONE**.
- The SPEAKERPHONE indicator will light.

2. 
Dial the phone number.

3.

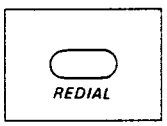
When finished conversation, push **SPEAKERPHONE**.
- The SPEAKERPHONE indicator will go out.

RECEIVING

1. 

Lift the handset or push **SPEAKERPHONE** and start speaking.

REDIALING

1. 

Push **REDIAL** when the line is busy.
- Up to 30 digits will be dialed when using the redial function.

■ **When using the handset;**
Depressing the REDIAL button enables you to redial once.

■ **When using the hands-free operation;**
(Automatic Redialing)
Depressing the REDIAL button enables you to redial up to 15 times within a 10-minute period.
- To cancel the automatic redialing, push the FLASH button.

Automatic Dialing

STORING THE PHONE NUMBERS FOR ONE-TOUCH DIALING

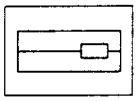
There are 7 Direct Call buttons, each Direct Call button consists of two functions, they are Upper and Lower memory locations. Each location (upper and lower) is capable of storing 16 digits each.

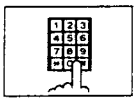
Be sure that the handset is on the cradle, the SPEAKERPHONE button is off and the AC adaptor is connected.

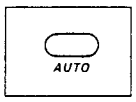
■ Using the Upper memory location:

1.

Push **PROGRAM** until the MEMORY indicator lights.

2. 
Push **the Direct Call button**.
- The MEMORY indicator will go out.

3. 
Dial **the phone number (up to 16 digits)**.

4. 

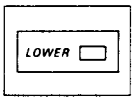
Push **AUTO**.
- The MEMORY indicator will light.
- To store the phone number in succession, repeat from step 2 to 4.

5.

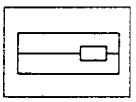
After storing all the numbers, push **PROGRAM**.
- The MEMORY indicator will go out.

■ Using the Lower memory location:

Another phone number can be stored into the Lower memory section of the same station.
In this case, you must change step 2 of the storing procedure as follows:



Push **LOWER**.
- Push the LOWER button first for storing in the lower memory section.


Push **the Direct Call button**.

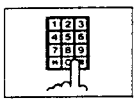
STORING THE PHONE NUMBERS FOR SPEED DIALING

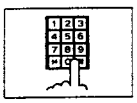
Each dialing button (1 through #) serves as a memory station. Each memory station is capable of storing 16 digits each.

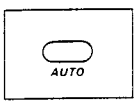
Be sure that the handset is on the cradle, the SPEAKERPHONE button is off and the AC adaptor is connected.

1.

Push **PROGRAM** until the MEMORY indicator lights.

2. 
Dial **the station number (1 through #)**.
- The MEMORY indicator will go out.

3. 
Dial **the phone number (up to 16 digits)**.

4. 

Push **AUTO**.
- The MEMORY indicator will light.
- To store the phone number in succession, repeat from step 2 to 4.

5.

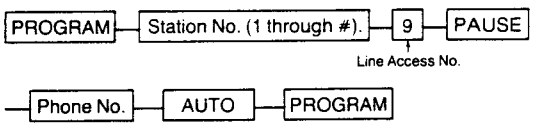
After storing all the numbers, push **PROGRAM**.
- The MEMORY indicator will go out.

BEHIND P.B.X.

If your extension is placed behind a P.B.X. system, enter the Line Access No. to gain access to an outside line.

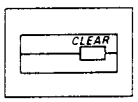
To Store

Push the buttons as follows:



CORRECTING AN ERROR WHILE STORING

If you notice an error before pushing the AUTO button.

1. 

Push **CLEAR**.
- The MEMORY indicator will light.

2. Repeat from step 2 of the "STORING THE PHONE NUMBERS" on page 8 and/or 9.

CONFIRMING A STORED NUMBER

1. Repeat storing the same number into the same station.
2. When the AUTO button is pushed, the MEMORY indicator will flash and a beep will be heard.
   - **twice:**
     The entry is the same as what was previously stored.
   - **once:**
     The entry is different from the one that was previously stored. Repeat the procedure of storing.

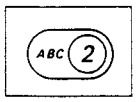
ERASING A STORED NUMBER

Be sure that the handset is on the cradle, the SPEAKERPHONE button is off and the AC adaptor is connected.

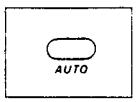
Example: To erase the number in memory station "2":

1.

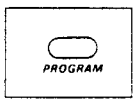
Push **PROGRAM** until the MEMORY indicator lights.

2. 

Push **"2"**.
(Station number to be erased.)

3. 

Push **AUTO**.

4. 

Push **PROGRAM**.
- The MEMORY indicator will go out.

DISASSEMBLY INSTRUCTIONS

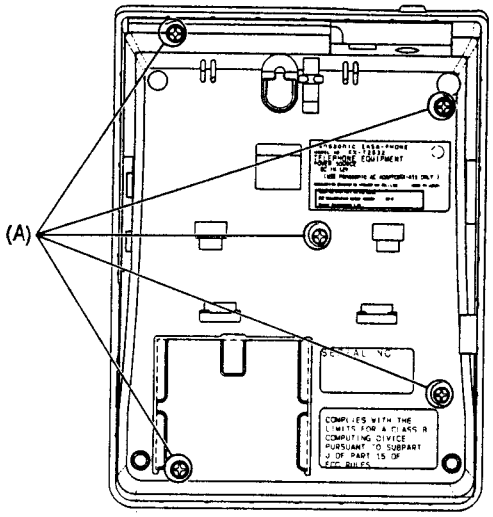


Fig. 2

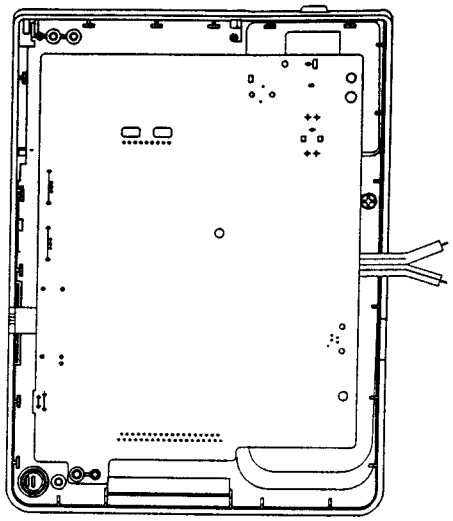


Fig. 3

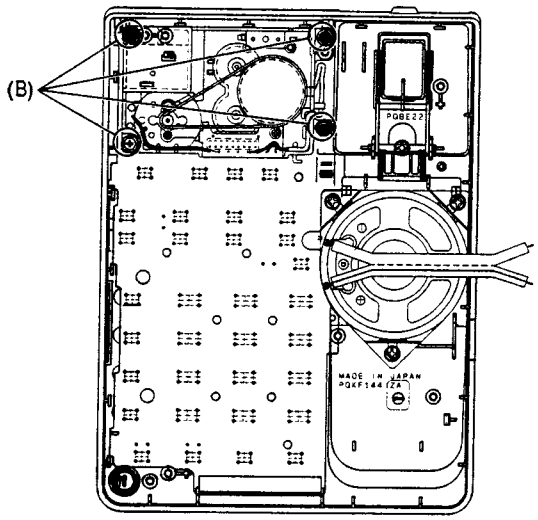


Fig. 4

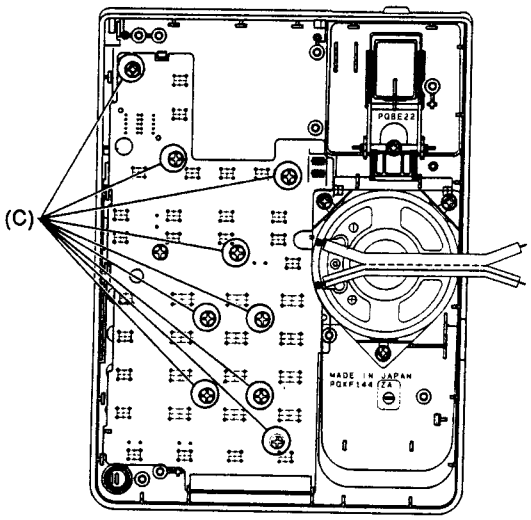


Fig. 5

(JX2PS404W TYPE ONLY)

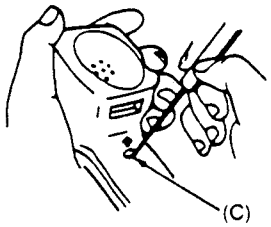


Fig. 6

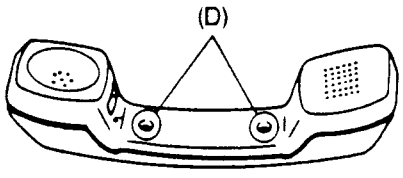


Fig. 7

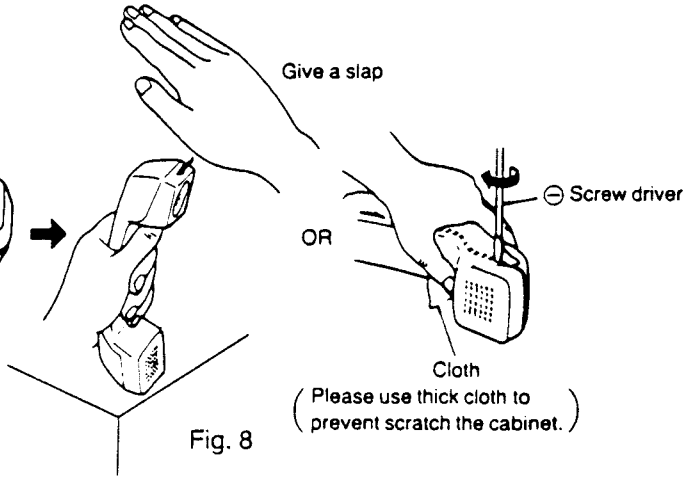


Fig. 8

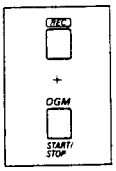
Note: JX2PS406W can't be disassembled.

Ref. No.	Procedure	Shown in Fig.—	To remove—	Remove—
1	1	2	Lower Cabinet	Screws (3×16) ..... (A)×5
2	1, 2	3	Main Printed Circuit Board	Remove the Main Printed Circuit Board
3	1~3	4	Cassette Deck	Red Screws (3×10) ..... (B)×4
4	1~4	5	Sub Printed Circuit Board	Screws (3×6) ..... (C)×9
5	5~7	6	Handset Cabinet	Rubbers ..... (D)×2
6		7		Screws (3×10) ..... (E)×2
7		8		Remove the cabinet

How to Record an Outgoing Message

The purpose of the Outgoing Message (OGM) is to inform the calling party that you cannot answer the call, but you want to record the caller's message.
The OGM is recorded on a voice-recordable Microchip (for answering) and on the Tape (for memory back-up).

OGM RECORDING

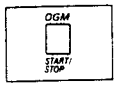
1. 

Push **REC** and **OGM START/STOP** simultaneously until a beep is heard.
- The IN USE indicator will flash.

2.

Speak clearly and loudly into the MIC.
- Speak about 8 inches away from the MIC.

Recording time is 16 seconds.
- The Call-Counter will show "0"→"1"→"2"..."16".

3. 

When finished, push **OGM START/STOP**.
- The OGM has been recorded on the Microchip.
- The OGM will be played back automatically.

4.
Adjust the volume control. (Right side of your unit)
- After reviewing the OGM, the unit will rewind the tape to the beginning **to record the OGM onto the tape** in the event of a power failure.

How to Operate from a Remote Phone

You can retrieve the recorded Incoming Messages from a remote location with a tone phone.

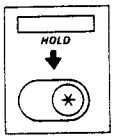
STORING THE REMOTE CODE NUMBER

Before operation, choose a three-digit remote code number and store it in memory.

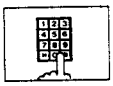
Be sure that the handset is on the cradle, the SPEAKERPHONE button is off and the AC adaptor is connected.
Example: 358

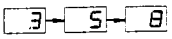
1.

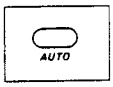
Push **PROGRAM** until the MEMORY indicator lights.

2. 

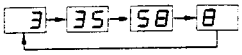
Push **HOLD**, then push "✱" for remote code setting.
- The MEMORY indicator will go out.
- The Call-Counter will show the previously stored remote code no.

3. 
Push "**3 5 8**" (the code number you want).
- The Call-Counter will show;



4. 

Push **AUTO**.
- The MEMORY indicator will light.
- The Call-Counter will show;



5.

Push **PROGRAM**.
- The MEMORY indicator will go out.

Recording a Conversation (2 Way Recording)

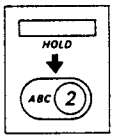
Many States have regulations on the manner in which 2-Way Telephone Conversations may be recorded. Consult your public utility agency.

PROGRAMMING 2 WAY BEEP

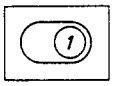
Before operation, set the 2 WAY BEEP to on as follows.

1.

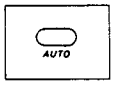
Push **PROGRAM** until the MEMORY indicator lights.

2. 

Push **HOLD**, then push "**2**" for 2 WAY BEEP setting.
- The MEMORY indicator will go out.

3. 

Push "**1**".

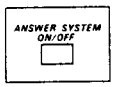
4. 

Push **AUTO**.
- The MEMORY indicator will light.

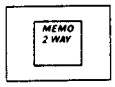
5.

Push **PROGRAM**.
- The MEMORY indicator will go out.

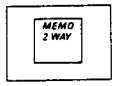
2 WAY RECORDING

1. 

Confirm the **ANSWER SYSTEM ON/OFF** switch is set to ON.
(Right side of your unit)

2. 

While having a conversation, push **MEMO/2WAY** until a beep sound is heard.
- A beep will sound every 15 seconds.

3. 

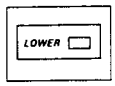
When you finished recording, push **MEMO/2WAY** again.

Transferring the Incoming Massages

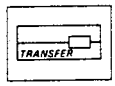
If a phone number is stored into the transfer station and the unit is set to the transfer mode, **each time the ICM is recorded, the unit will automatically dial the number to which the ICM is to be transferred.**

SETTING THE TRANSFER MODE

Make sure the transfer number is stored beforehand.

1. 

Push **LOWER**.

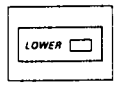
2. 

Push **TRANSFER**.
- The TRANSFER indicator will light.
- To cancel, repeat steps 1 and 2. The TRANSFER indicator will go out.

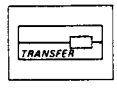
STORING THE NO. TO BE TRANSFERRED

1.

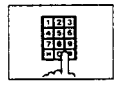
Push **PROGRAM** until the MEMORY indicator lights.

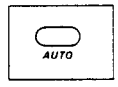
2. 

Push **LOWER**.
- The LOWER button must be pushed at first.

3. 

Push **TRANSFER**.

4. 
Dial **the phone number (up to 16 digits)**.

5. 

Push **AUTO**.
- The MEMORY indicator will light.

6.

Push **PROGRAM**.
- The MEMORY indicator will go out.

IC BLOCK DIAGRAM

IC4, 5 PQVITM41256A

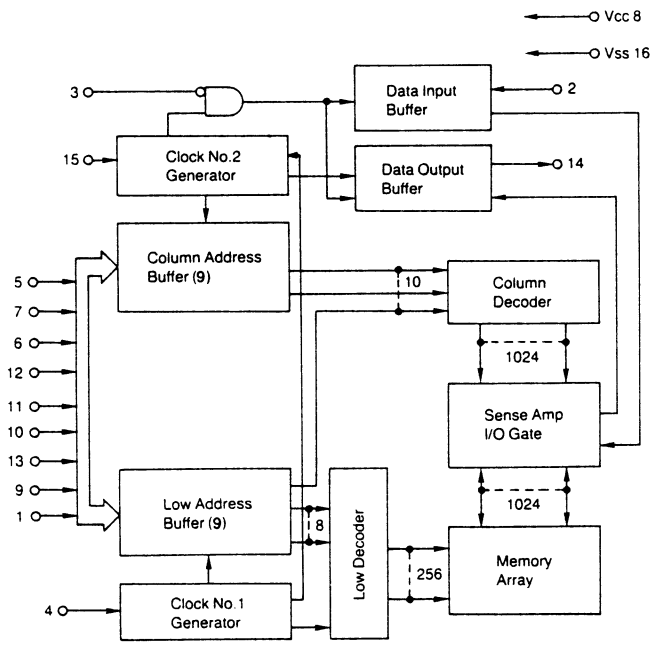


Fig. 9

IC6 PQVIT6668

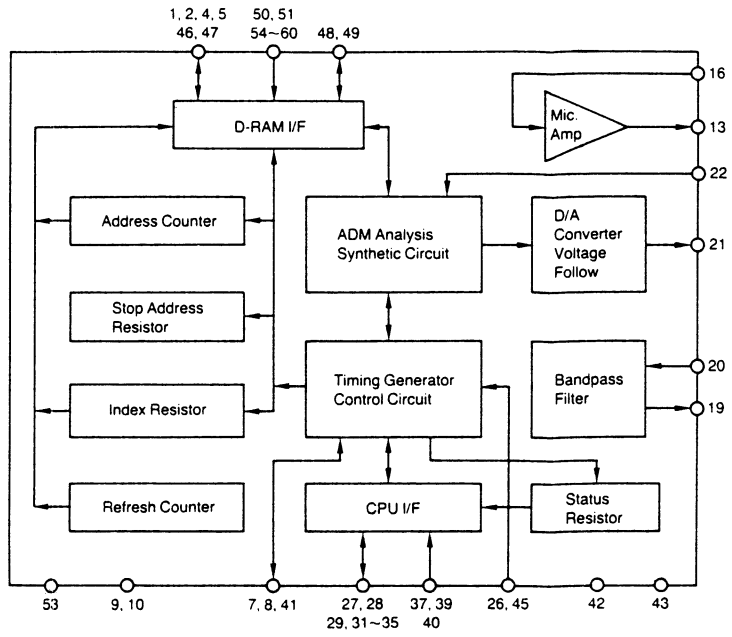
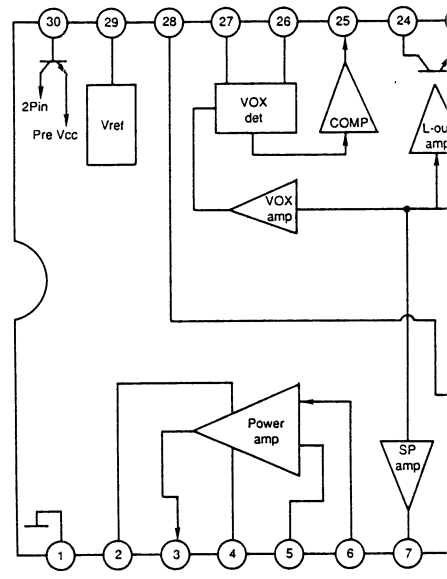


Fig. 10

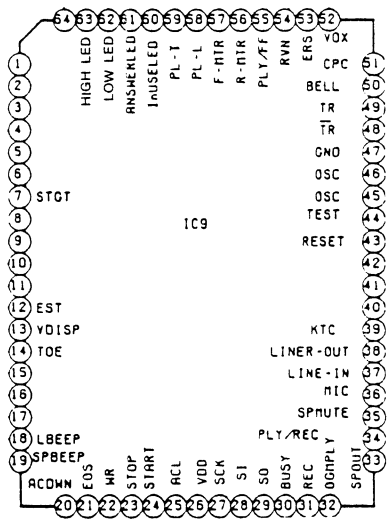
IC7 A



F

CPU DATA

IC9: PQVI4042FH93
Program ROM: 4K
Internal RAM: 256 x 4K bit
Clock Frequency: 4MHz
Power Supply Votage: 5.4V or 5V



IC3: MN1
Program
Internal
Clock Fr
Power S

Pin No.	Function	High	Low	Pin No.	Function	High	Low
1				33	SP OUT	—	OGM/Play
2				34	PLY/REC	Play	REC
3				35	SP MUTE		
4	T2630/T2632	T2630		36	MIC	ON	OFF
5				37	LINE IN		
6				38	LINE OUT		
7	ST GT	GET		39	Key Tone Control	—	TONE
8				40	Option		
9	Key DTMF	Push		41	Option	Diode Disable	Diode Enable
10				42	Option		
11				43	RESET		
12	Eary Store	DTMF		44	TEST		
13	Vdisp			45	OSC1		
14	Data Out	DTMF	Key	46	OSC2		
15				47	Ground		
16	Key Input		Push	48	TR OUT & Strobe	OFF	ON
17				49	TR OUT & Strobe	ON	OFF
18	Line Beep	—	Off	50	Bell	—	Bell
19	Speaker Head Beep	—	Off	51	CPC	CPC	—
20	AC Down	—	Down	52	VOX	Disable	Enable
21	End of Speech	End	—	53	Erase	ON	OFF
22	Write?Read	REC	Play	54	RVN	—	—
23	Stop	Stop	—	55	PLY FF	FF	PLY
24	Start	Start	—	56	R Motor		
25	Address Clear	—	Clear	57	F Motor		
26	Ground			58	PL-L		
27	SCK			59	PL-T	ON	OFF
28	SI			60	IN USE LED		
29	SO			61	Answer LED		
30	Busy		Busy	62	Power LED		
31	REC	REC	Play	63	Ground		
32	OGM Play	Play	—	64			

Pin No.	Function
1	GND Terminal
2	Key-Scan Output
3	Key-Scan Output
4	Key-Scan Output
5	Key-Scan Output
6	Serial Clock
7	Serial Data Output
8	Serial Data Input
9	Serial Busy signal output
10	Audible Tone/Ringer Output
11	System Reset Signal Input
12	Mute/Hold LED Control Output
13	Transfer Control Output
14	Auto Answer Control Output
15	On/Off Control Output
16	Option Data and Key Input
17	Option Data and Key Input
18	Tone Detect Signal Input
19	Hook Signal Input
20	Key-Scan Output
21	Key-Scan Output
22	Key-Scan Output
23	Ex-Hook Signal Input
24	Key Input
25	Key Input
26	Key Input
27	Key Input
28	Tip Ring Control Output
29	Speaker Mute Control Output
30	Mic Mute Control Output
31	SP-Phone/Handset Control Output
32	AC Power Detect Input
33	Stop Signal Input
34	Avdible Tone Control Output
35	Ringer Control Output
36	Pulse Dial Output
37	DTMF Signal Output
38	System Clock
39	System Clock
40	Open
41	Interrpt Signal Input
42	+ Power Source Terminal

Panasonic 6PP7

IC7 AN6180K

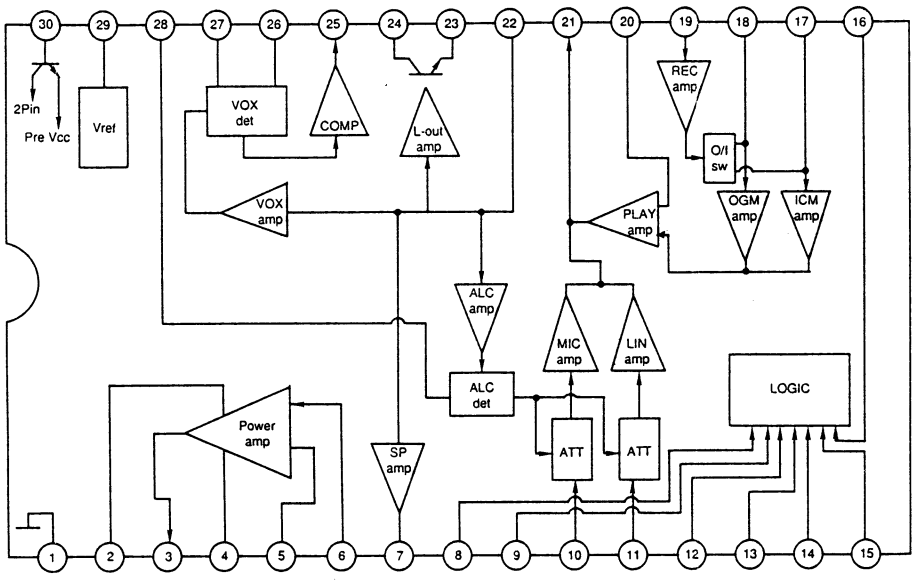


Fig. 11

IC8 PQVIMT8870BC

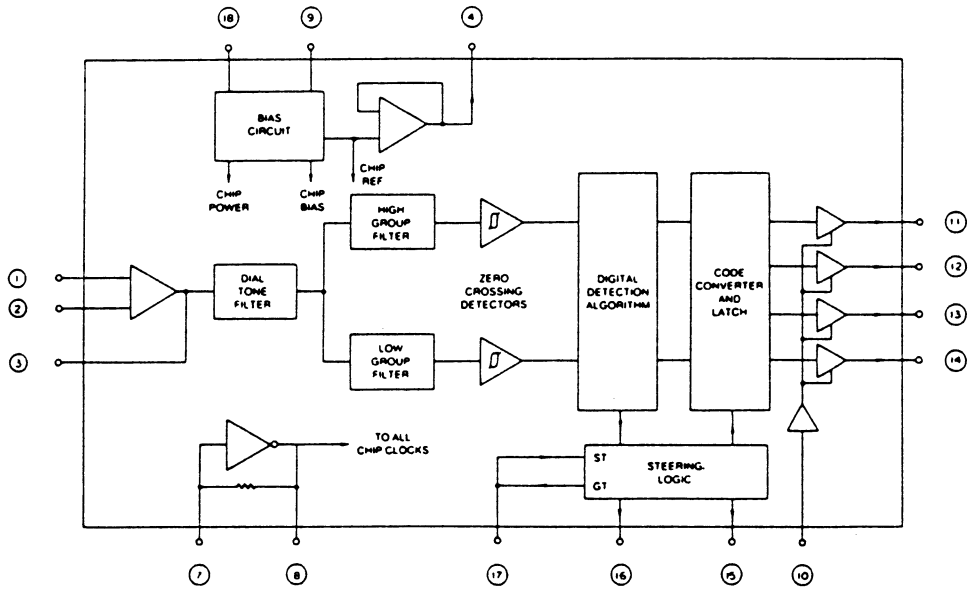


Fig. 12

IC3: MN158413KTV
Program ROM: 4K
Internal RAM: 3K bit
Clock Frequency: 3.58MHz
Power Supply Votage: 2~5.5V

IC11 PQVISC77655S

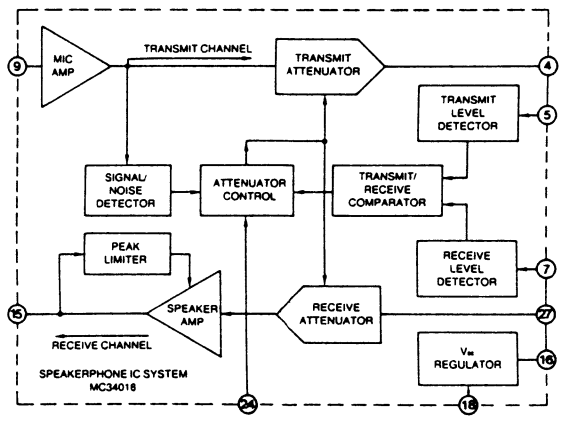


Fig. 13

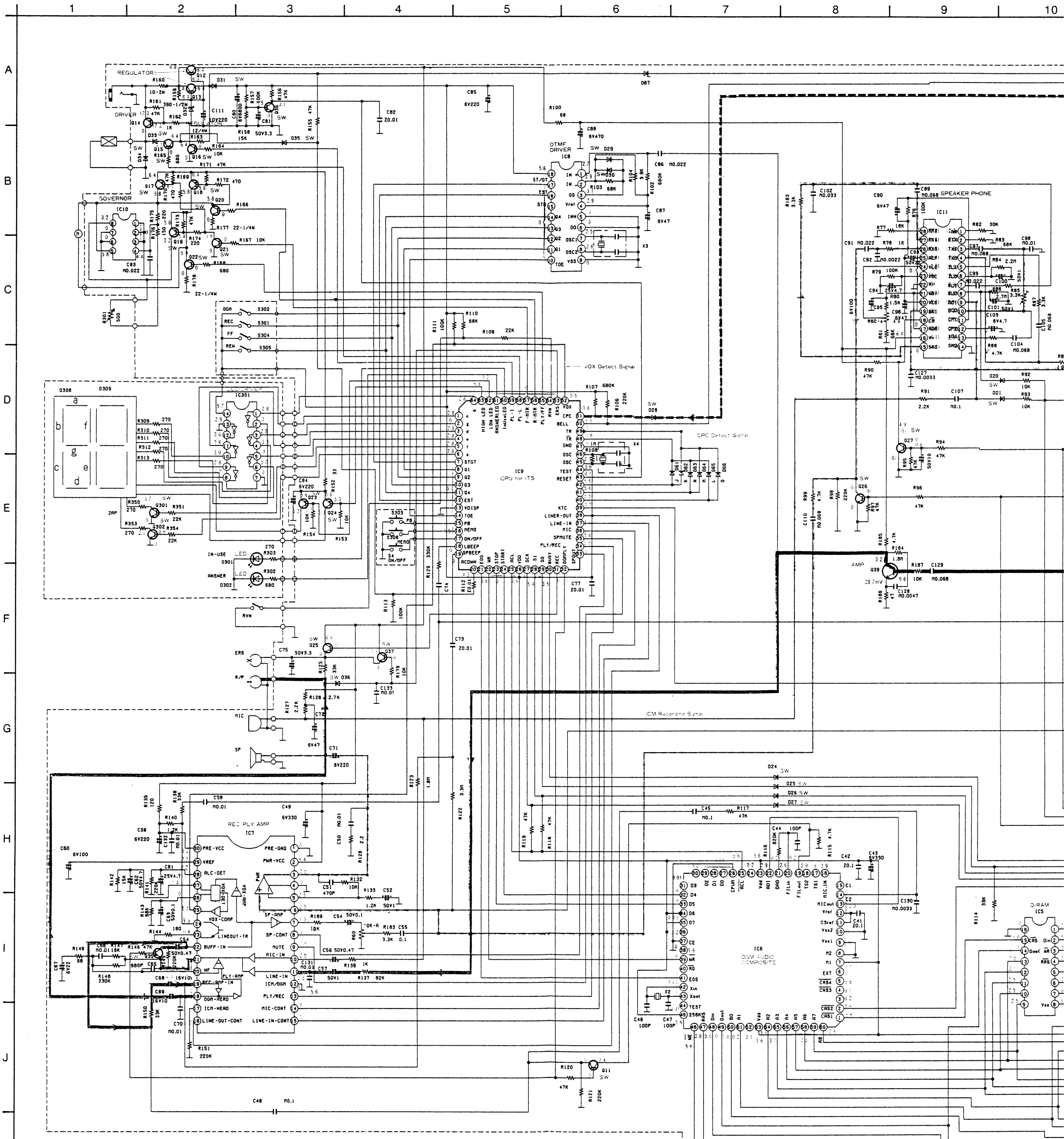
Pin No.	Function	High	Low
1	GND Terminal		
2	Key-Scan Output	High-imp	Active
3	Key-Scan Output		
4	Key-Scan Output		
5	Key-Scan Output		
6	Serial Clock		
7	Serial Data Output	Usually	Active
8	Serial Data Input		
9	Serial Busy signal output		
10	Audible Tone/Ringer Output		Usually
11	System Reset Signal Input	Usually	Active
12	Mute/Hold LED Control Output	OFF	ON
13	Transfer Control Output		
14	Auto Answer Control Output		
15	On/Off Control Output		
16	Option Data and Key Input	Disable	Enable
17	Option Data and Key Input		
18	Tone Detect Signal Input	Usually	Tone Input
19	Hook Signal Input	ON-Hook	OFF-Hook
20	Key-Scan Output	High-imp	Active
21	Key-Scan Output		
22	Key-Scan Output		
23	Ex-Hook Signal Input	OFF Hook	ON Hook
24	Key Input	Disable	Enable
25	Key Input		
26	Key Input		
27	Key Input		
28	Tip Ring Control Output	ON	OFF
29	Speaker Mute Control Output		
30	Mic Mute Control Output		
31	SP-Phone/Handset Control Output	SP-Phone	Handset
32	AC Power Detect Input	AC Power ON	AC Power OFF
33	Stop Signal Input	Stand by	Normal
34	Avdible Tone Control Output	Usually	Active
35	Ringer Control Output	Active	Usually
36	Pulse Dial Output	Make	Break
37	DTMF Signal Output		Usaually
38	System Clock		
39	System Clock		
40	Open		
41	Interrpt Signal Input	Usually	
42	+ Power Source Terminal		

Circuit Operation(IC3):

- Pin 2~5 output the scanning signal to the Dial, Lower, Redial, Pause, Auto Answer switch and the option data.
- Pin 6 outputs the standard clock to the TAM's CPU.
- Pin 7 outputs the data to the TAM's CPU.
- Pin 8 inputs the data from the TAM's CPU.
- Pin 9 outputs the serial busy signai to the TAM's CPU. When outputting its output is a low.
- Pin 10 outputs the audible tone.The audible tone is outputted from this port as a single signal.
- Pin 11 inputs the reset signal to CPU. When rese,t its input is a low level.
- Pin12~15 output the Speakerphone On/Off the Mute/Hold the Transfer and the Auto Answer LED indicators. Whil the LED lights the outputs are at the Low level.
- Pin 16,17 are the option data On/Off and the Tone/Pulse switch input ports.
- Pin 18 is the detector input to each tone from the Tel. line. When a tone signal is detected, its level is a low.
- Pin 19 inputs the Hook switch signal. When off hook, it inputs a low level.
- Pin 20~22 output the scanning signal to station key, the Program, Hold, Auto Mute, Flash and the Option switch.
- Pin 23 inputs the hold coucellation detector signal. When the hold switch is cancelled, it inputs a high level.
- Pin 24~27 are the key data input ports.
- Pin 28 outputs the tip ring control signal. When the hold switch is pressed or monitor mode Handset is on hook, it outputs a high level.
- Pin 29, 30 are the muting control signal. During muting, its output is a high level.
- Pin 31 outputs the monitor/handset selector signal. (High: Monitor , Low: Handset.)
- Pin 32 inputs a high level when power is applied from the AC adaptor.
- Pin 33 inputs the stop detector signal. (To make the memory backup condition to the CPU.)
- Pin 35 are privacy ring control signal. When outputting, its output is a high level.
- Pin 36 is an output to control the Make/Break, of the pulse dialing.During break, its output is a low level.
- Pin 37 is the terminal for the DTMF signal output.
- Pin42 is the + power supply input of the CPU.

Note: IC6, 7 CPU Data...Refer to Page 45.

SCHEMATIC DIAGRAM



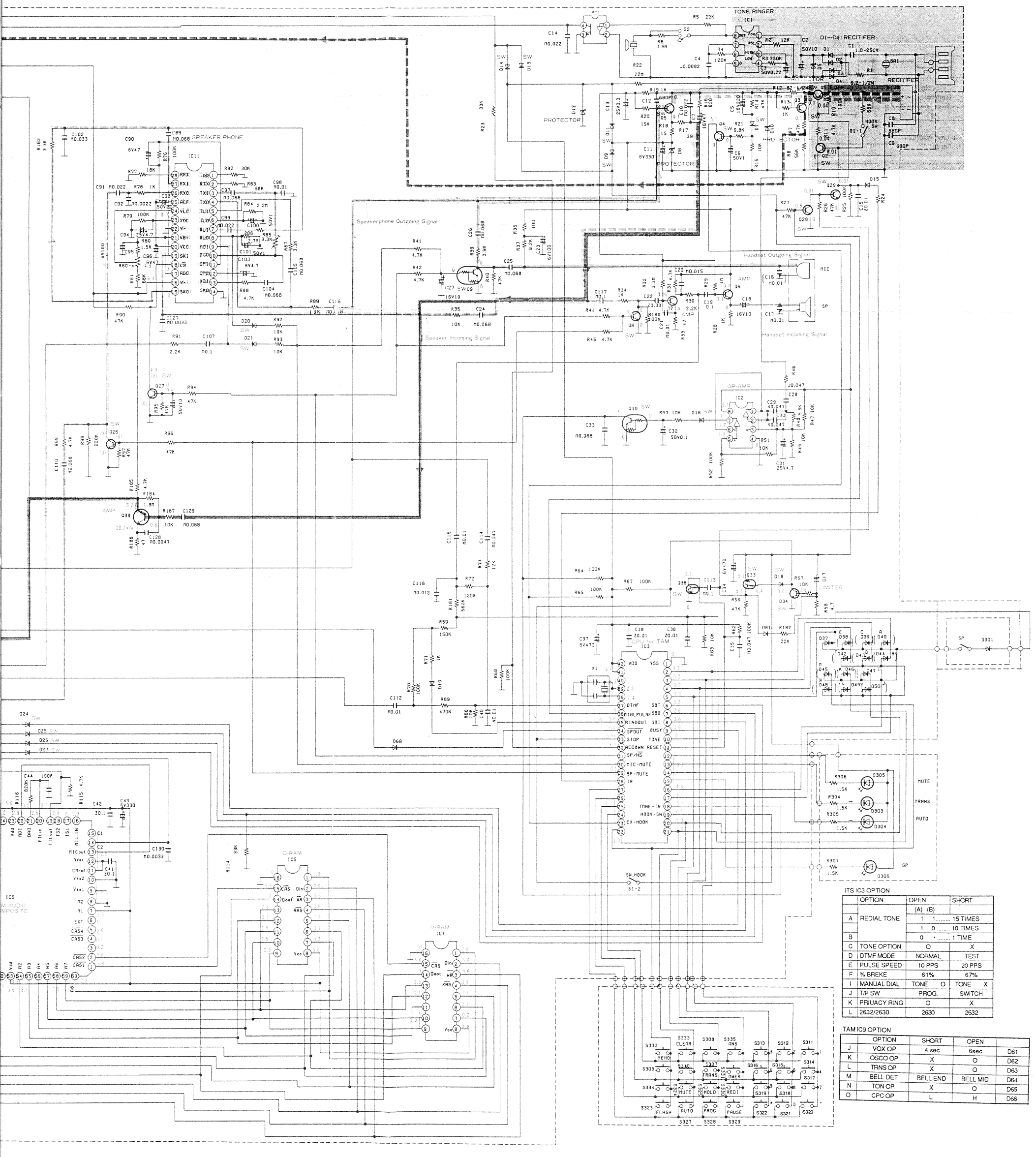
Notes:

1. S1: Hook switch in "OFF-HOOK" position.
2. S2: Ringer volume selector switch in "HIGH" position.
3. S4: Power on/off switch in "OFF" position.
4. S7: Reed switch.
5. S301: REC switch.
6. S302: OGM switch.
7. S303: Playback switch.
8. S304: Fast forward switch.
9. S305: Rewind switch.
10. S306: Memo switch.
11. S307~ S310: Station switch.
12. S311~ S322: Dialing switch.
13. S323: Flash switch.
14. S324: Mute switch.
15. S325: Hold switch.
16. S326: Speaker phone on/off switch.
17. S327: Auto switch.
18. S328: Program switch.
19. S329: Pause switch.
20. S330: Redial switch.
21. S331: Lower switch.
22. S332: Memory switch.
23. S333: Clear switch.
24. S334: Transfer switch.
25. DC voltage measurement are taken with an electronic voltmeter from negative line.

Important safety notice

The shaded area on this schematic diagram inc
special features important for protection from
electrical shock hazards.
When servicing it is essential that only manu
specified parts be used for the critical compone
shaded area of the schematic.

SCHEMATIC DIAGRAM



ITS IC3 OPTION

	OPTION	OPEN	SHORT
		(A) (B)	
A	REDIAL TONE	1 1..... 15 TIMES	
		1 0 ..... 10 TIMES	
B		0 • ..... 1 TIME	
C	TONE OPTION	O	X
D	DTMF MODE	NORMAL	TEST
E	PULSE SPEED	10 PPS	20 PPS
F	% BREKE	61%	67%
I	MANUAL DIAL	TONE O	TONE X
J	T/P SW	PROG.	SWITCH
K	PRIUACY RING	O	X
L	2632/2630	2630	2632

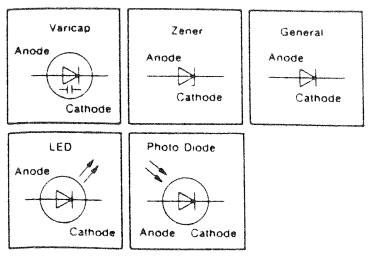
TAM IC9 OPTION

	OPTION	SHORT	OPEN	
J	VOX OP	4 sec	6sec	D61
K	OSCO OP	X	O	D62
L	TRNS OP	X	O	D63
M	BELL DET	BELL END	BELL MID	D64
N	TON OP	X	O	D65
O	CPC OP	L	H	D66

This schematic diagram may be modified at any time with the development of new technology.

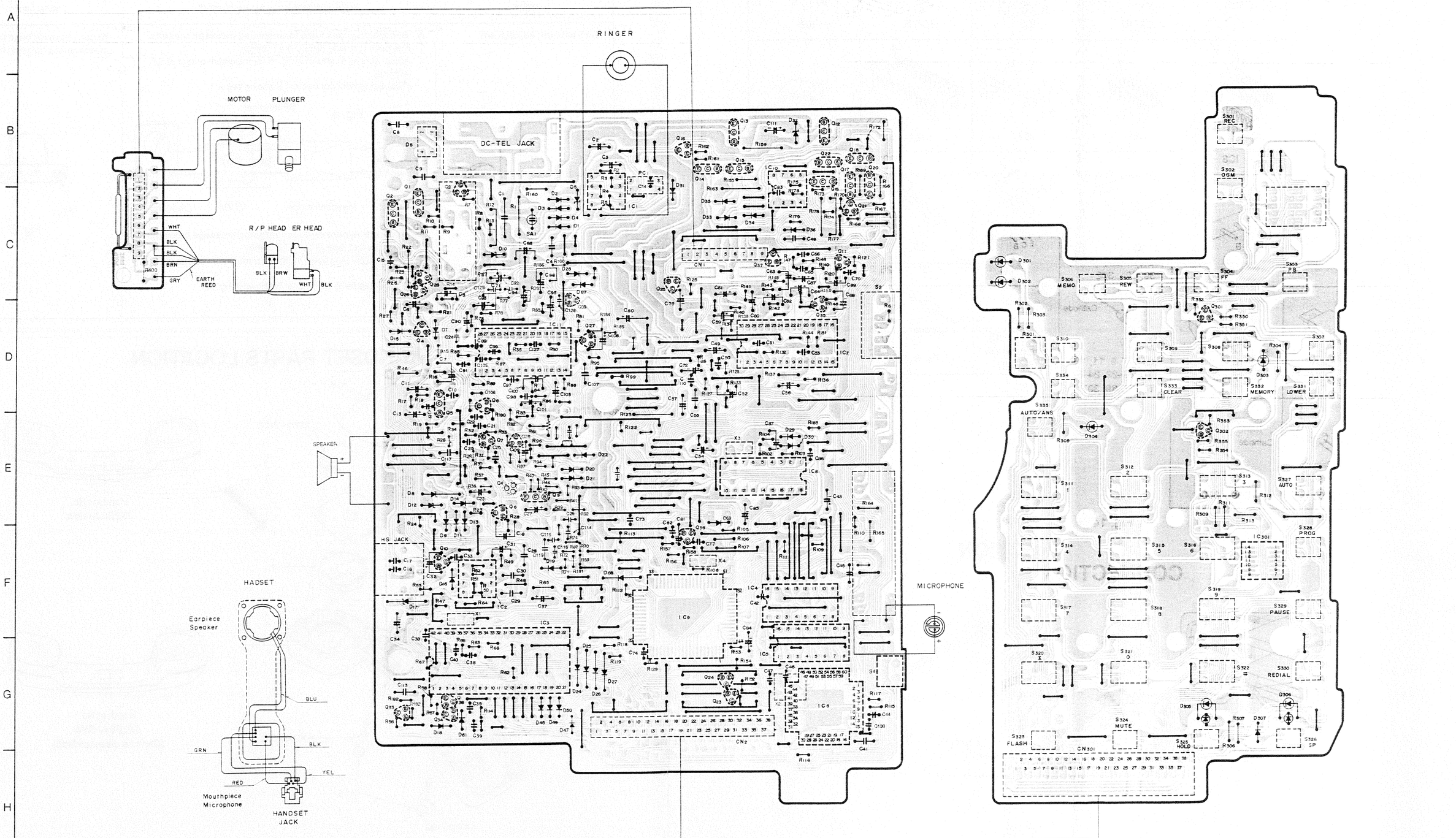
Important safety notice

The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded area of the schematic.



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

Component View



This circuit board may be modified at any time with the development of new technology.

TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES

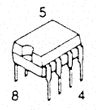
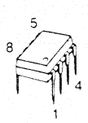
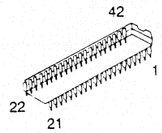
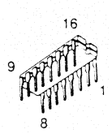
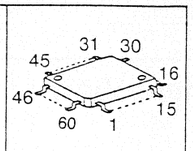
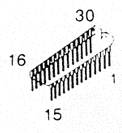
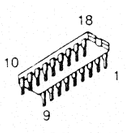
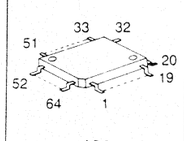
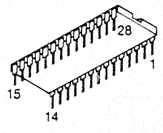
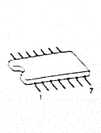
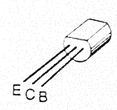
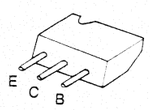
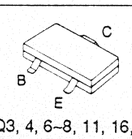
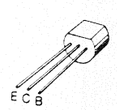
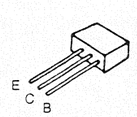
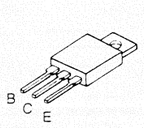
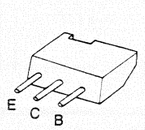
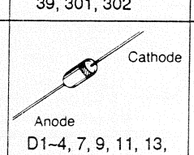
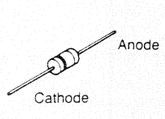
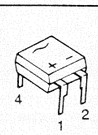
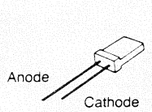
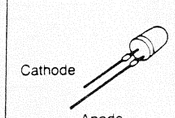
 IC1	 IC2, 10	 IC3	 IC4, 5	 IC6
 IC7	 IC8	 IC9	 IC11	 IC301
 Q1	 Q2	 Q3, 4, 6~8, 11, 16, 21, 23~29, 34~37, 39, 301, 302	 Q5	 Q9, 15, 26, 31
 Q12, 13	 Q14, 17~20, 22	 D1~4, 7, 9, 11, 13, 14, 16~22, 24~36, 61, 67, 69, 307	 D5, 8, 10	 D6
 D301, 302	 D303~306			

Fig. 14

CONNECTION

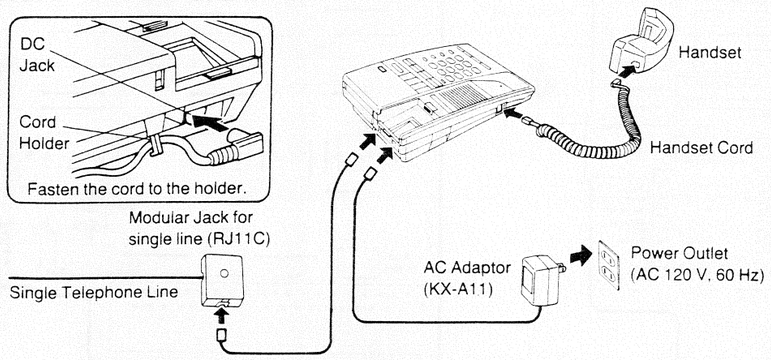
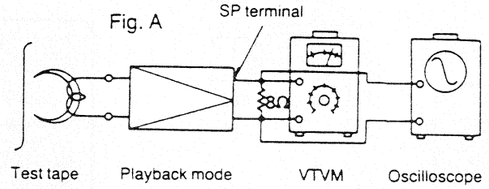
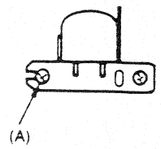


Fig. 15

MEASUREMENT AND ADJUSTMENT METHOD

Notes: 1. Make sure the heads are clean.
2. Make sure the capstan and pressure roller are clean.
3. Room temperature for measuring and adjusting: 20±5°C (68±9°F)
4. Test equipments are not treated as replacement parts.

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Head azimuth adjustment	**A. Record/playback head for incoming message cassette** 1. Playback test tape (QZZCWAT 3 kHz) 2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.) Fig. A  **B. Record/Playback head for outgoing message cassette** 1. Playback test tape (PQJN17Z 3 kHz) 2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown in fig. A)	• Record/playback head for incoming message and outgoing message.  Fig. B

HANDSET PARTS LOCATION

Fig. 16

BLOCK DIAGRAM

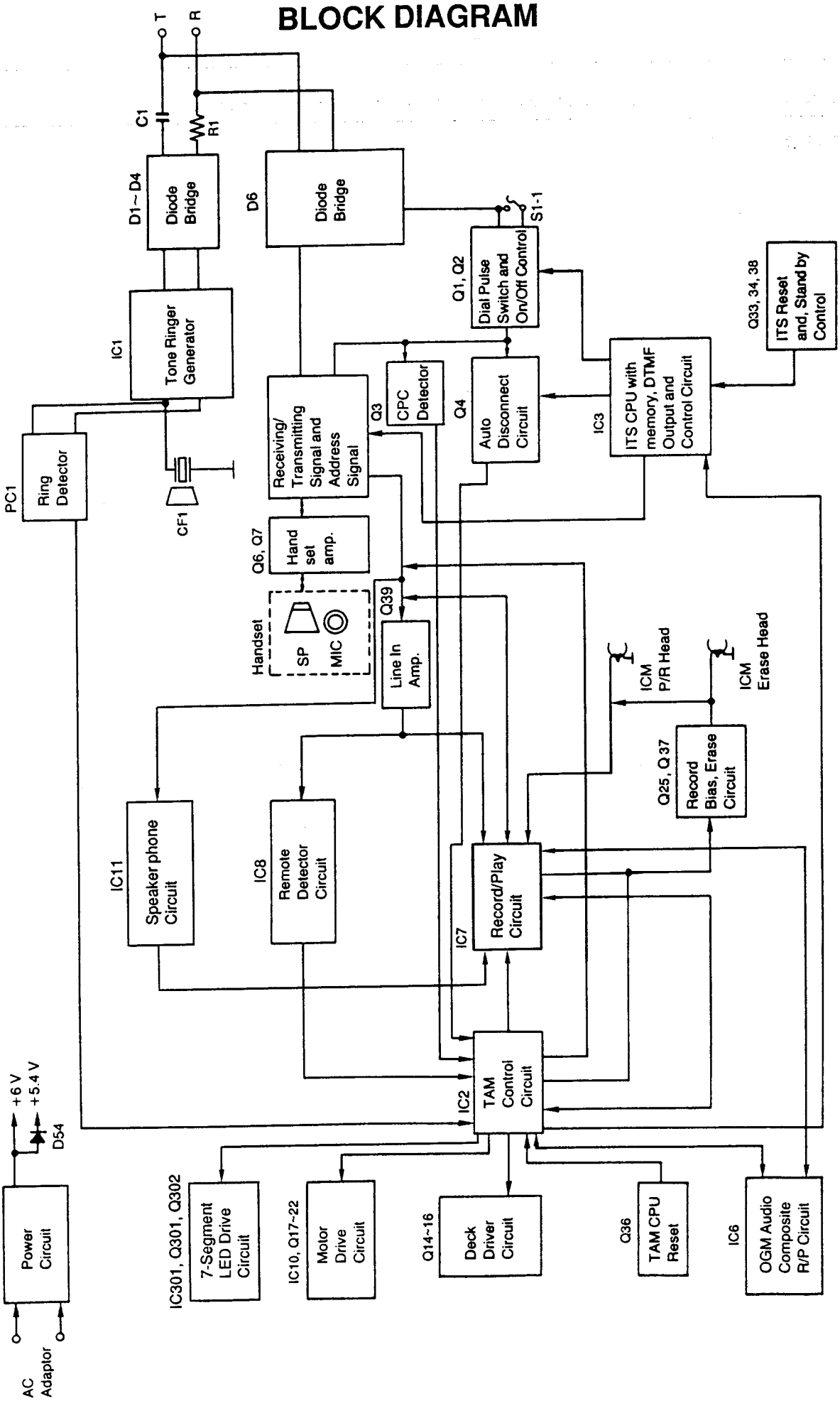


Fig. 17

CIRCUIT OPERATION

Note:
The circuit diagram may be modified at any time with the development of new technology.

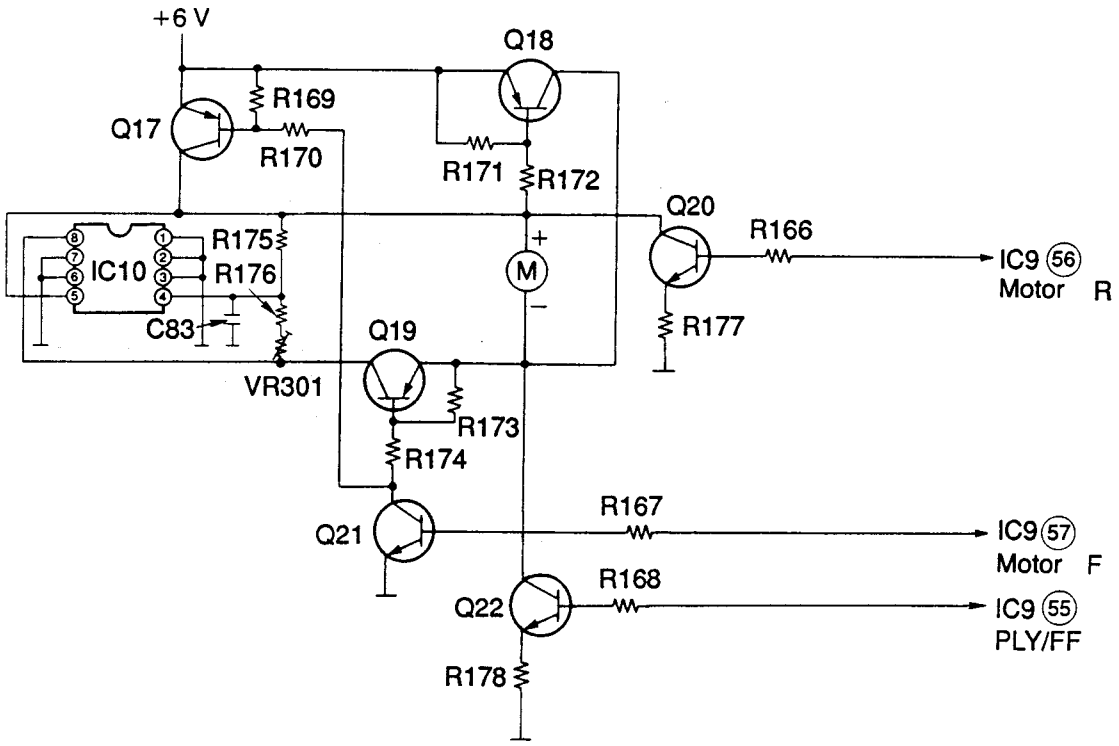
■ MOTOR DRIVE CIRCUIT

Playback (or Recording)
When IC1 pin 57 becomes "H", Q21 turns ON, hence Q17 and Q19 go ON thus the governor (IC10) is activated and the motor voltage is regulated, hence the motor rotates at a constant speed.

First Forward
In the same way as when the unit is in the play mode, IC1 pin 57 becomes "H", however the timing of the plunger is changed by IC1 pins 58, 59 and the motor is rotated at high speed.

Rewind
When IC1 pin 57 becomes "H", Q20 goes ON. Q18 also goes on, and the motor current flows through Q18→Motor→Q20. Because this is the reverse direction to the current which flows in the above Fast Forward mode, the motor rotates at high speed in the reverse direction.

Circuit Diagram



■ TELEPHONE LINE INTERFACE

When the hook switch S1-1 is ON (off-hook), the circuit is closed, and current is supplied to the base of Q2 via the diode bridge D6 and R9.
Q1 and 2 are the dial pulse generating circuits, and are driven by the CPU (IC3), when the CPU pin 36 is ON (Low)→Q7 is OFF →Q6 is ON and Q1 is OFF. (break)
If pin 36 is OFF (High)→Q7 is ON→Q6 is OFF→Q2 and Q1 ON. (make)

The ring signal is outputted from pin 8 of IC1, and its volume is adjusted in 3 steps (H-L-OFF) by S2-1, then impressed on the ceramic sound generator, and so is generated.

R2 ..... Bell sensitivity adjustment
R4, C4 ..... Bell frequency setting fH1, fH2
R3, C3 ..... Repeat frequency setting fL

fH1, fH2, fL are derived from the following formula:

$$fH1 = \frac{1}{1.227 \times R4 \times C4} = 828\ Hz \qquad fL = \frac{1}{1.273 \times R3 \times C3} = 10.8\ Hz$$

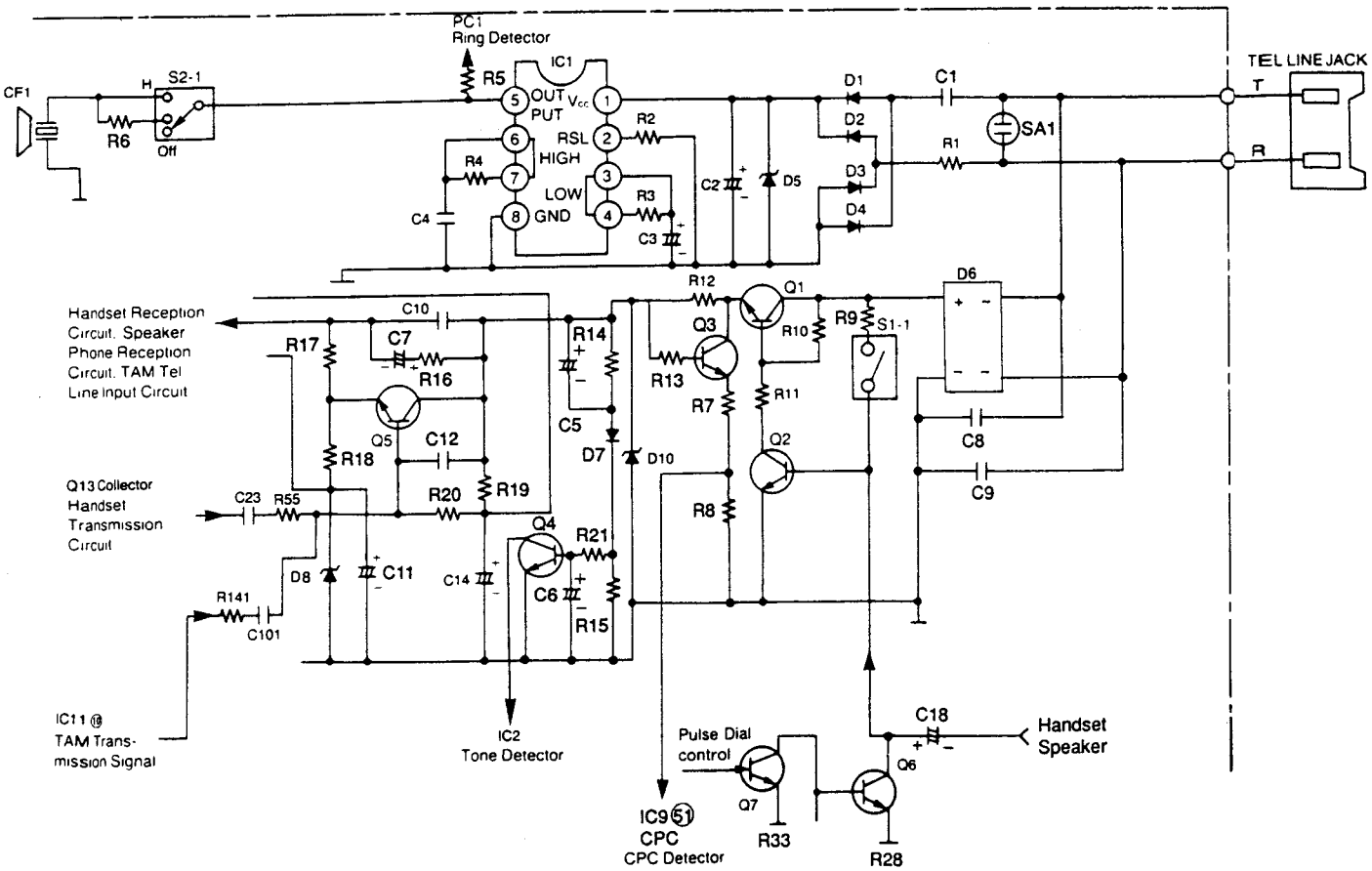
R4 = 120 K
C4 = 0.0082 μF

R3 = 330 K
C3 = 0.22 μF

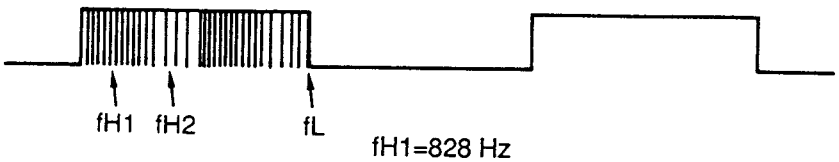
fH2 = 1.26 X fH1 = 1044 Hz

The following shows the waveform of the tone ringing IC output:

Circuit Diagram



IC1 ⑧ pin



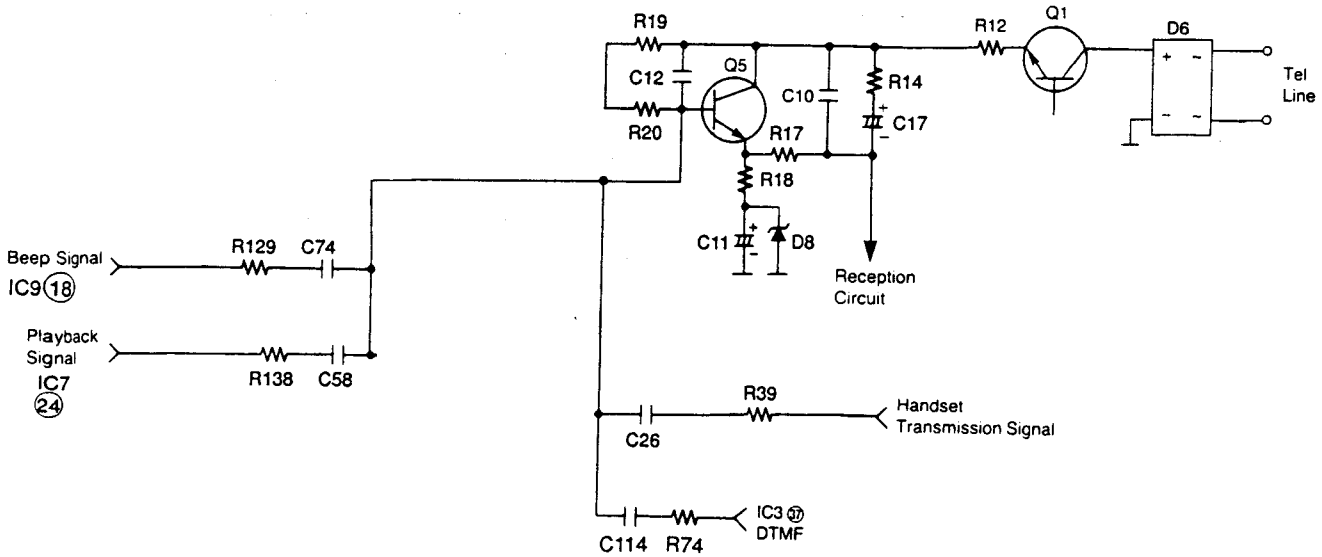
fH1=828 Hz
fH2=1044 Hz
fL =10.8 Hz

■ LINE OUTPUT CIRCUIT

Each signals are sent to the telephone line as follows.

- (Beep Tone) IC9 pin 18→R129→C74
- (Tape Playback Signal) IC7 pin 24→R138→C58
- (Handset Transmission Signal) Handset Mic→R39→C26→Q5 base→Q5 collector→R12→Q1→D6→Telephone Line
- (DTMF, Hold Tone) IC3 pin 37→R74→C114

Circuit Diagram

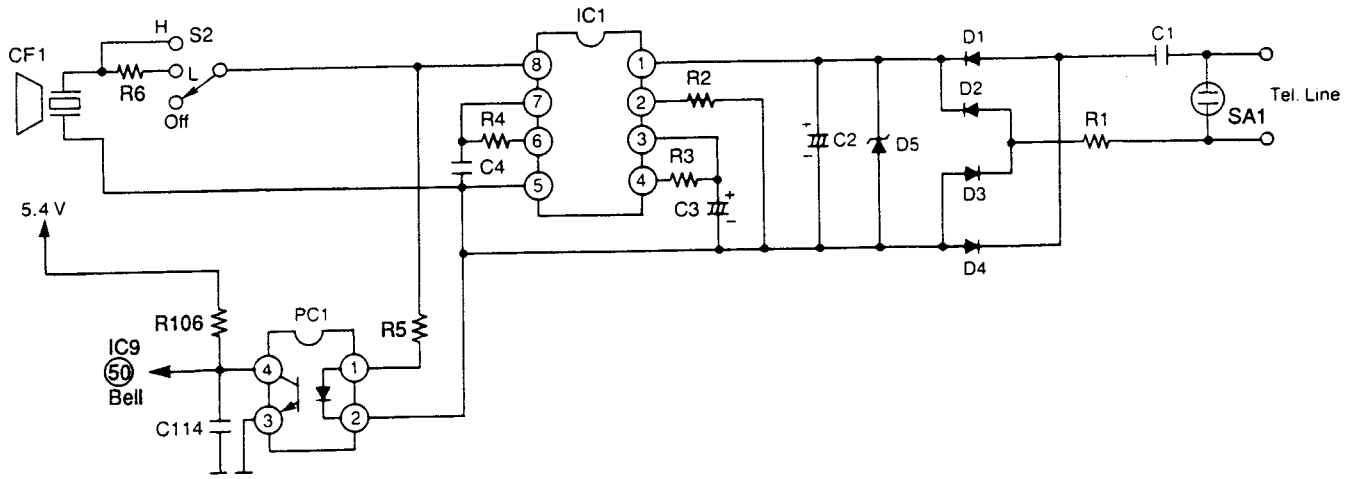


■ RING DETECTOR CIRCUIT

Function:
This circuit activates the CPU to respond to the ring signal from the telephone line during the ANSWER mode of operation.

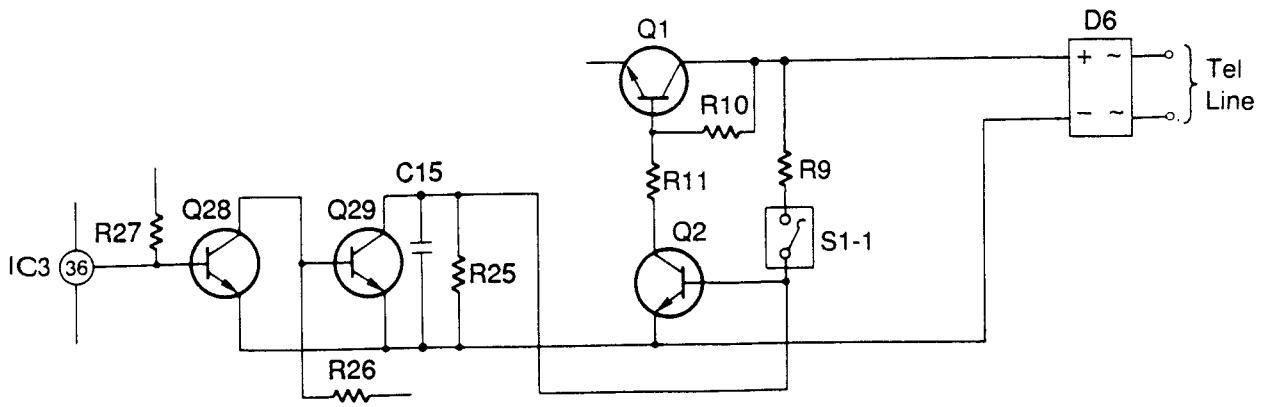
Circuit Operation:
When a Ring Signal is inputted from the telephone line, a tone (ring signal) will be outputted from IC1 pin 8. (See telephone line interface.)
This ring signal flows through R5→PC1 pin 1→PC1 pin 2, hence photocoupler→PC1 pin 4-3 will turn ON.
As a result, IC9 pin 50 goes Low, indicating that Ring Signal was inputted.

Circuit Diagram



■ PULSE DIAL CIRCUIT

Circuit Operation:
The dial pulses are generated by the CPU (IC3), and reach the telephone line via the following path; Pin 36 of IC3→Q28→Q29→Q2→R11→Q1→D6→telephone line.



■ TONE DIAL CIRCUIT

Function:

The tone dialing circuit consists of a DTMF (Dual Tone Multi Frequency) signal generator (outputted from pin 16 of the microprocessor) for tone dialing, and also a circuit of outputting the signal to line.
The DTMF circuit identifies inputs from 12 keys (1, 2, 3, 4, 5, 6, 7, 8, 9, 0, *, and #) by means of a total of seven frequencies, that is four low frequencies (Low group) and three high frequencies (High group).

Circuit Operation:

When a dial key is pressed, a DTMF signal is outputted from pin 37 of IC1 as an analog synthetic wave.
The signal flow to the line is as follows.
Pin 37 of IC1→R74, C114→Q5 base→Q5 collector→R12→Q1→D6→Line.
Q5 is an amplifier which is used to output the signal to the line.
Shown below is the signal flow used to output the DTMF signal from the handset as a monitor tone when a dial key is pressed.
The circuit flow is as follows:
Pin 37 of IC3→R72→R73→C115→C19→Q6 base→Q6 emitter→C18→handset speaker.
The signal combination and frequency corresponding to each dial key is shown below.

Tone Frequencies

High Group / Low Group	H1	H2	H3
L1	1	2	3
L2	4	5	6
L3	7	8	9
L4	*	0	#

Low Group	Frequencies	High Group	Frequencies
L1	697 Hz± 1.5%	H1	1209 Hz± 1.5%
L2	770 Hz± 1.5%	H2	1336 Hz± 1.5%
L3	852 Hz± 1.5%	H3	1477 Hz± 1.5%
L4	941 Hz± 1.5%		

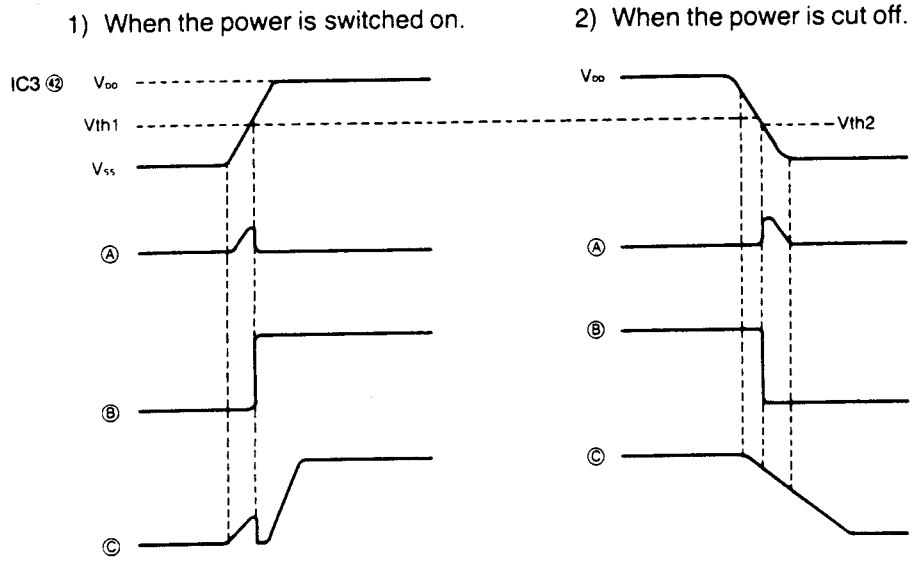
Circuit Diagram.....Refer to page 23.

■ ITS RESET AND STAND BY CONTROL CIRCUIT

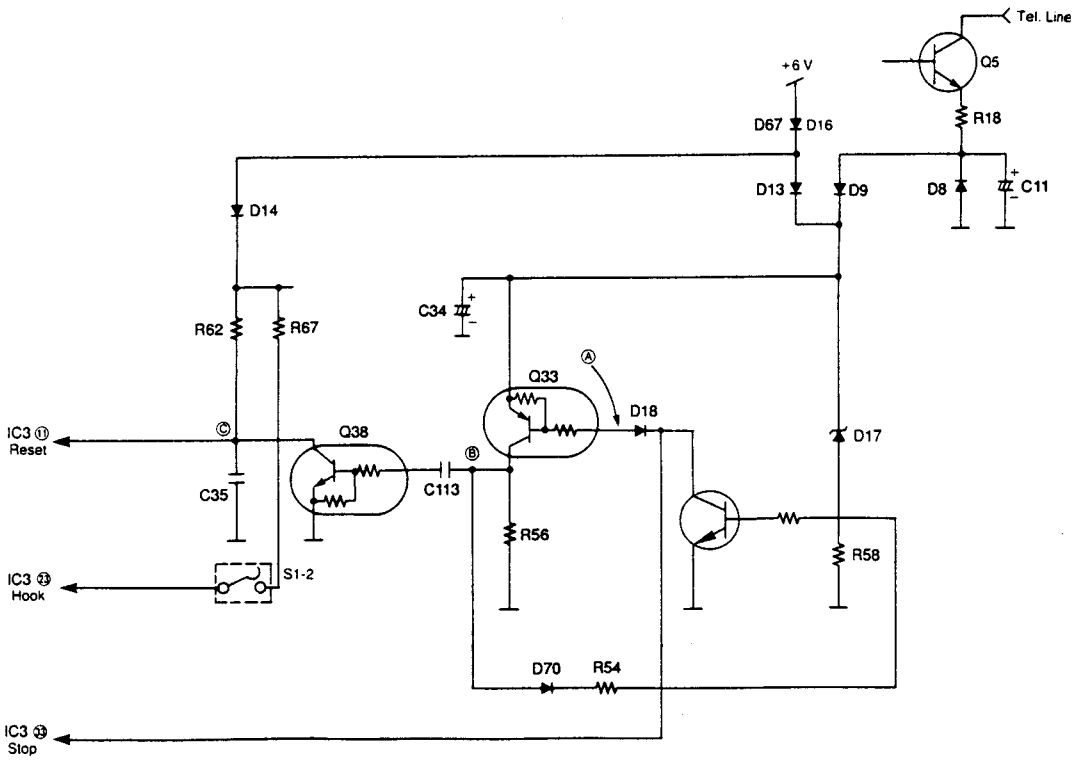
Function:
In order to hold the contents of the memory of IC1, the unit is designed so that it goes into the Stop mode when the power is cut off (memory backup mode: CPU clock stops in order to reduce power consumption).

Circuit Operation:
Timing charts A to C are shown.

1) When the power is switched ON, the voltage will gradually rise until it reaches Vth1, whereupon IC1 pin 11 input port changes from a "L"→"H", and a reset is applied. Simultaneously, a "L" is inputted to IC1 pin 33 the stop input port, causing the stop mode to be cleared.
2) When the power is cut off, the voltage falls until it reaches Vth2, whereupon a "H" is inputted to IC1 pin 33, and IC1 enters the stop mode to reduce power consumption, so that only memory hold current is supplied.



Circuit Diagram



■ HANDSET TRANSMISSION, RECEPTION AND DTMF SIGNAL OUTPUT CIRCUIT

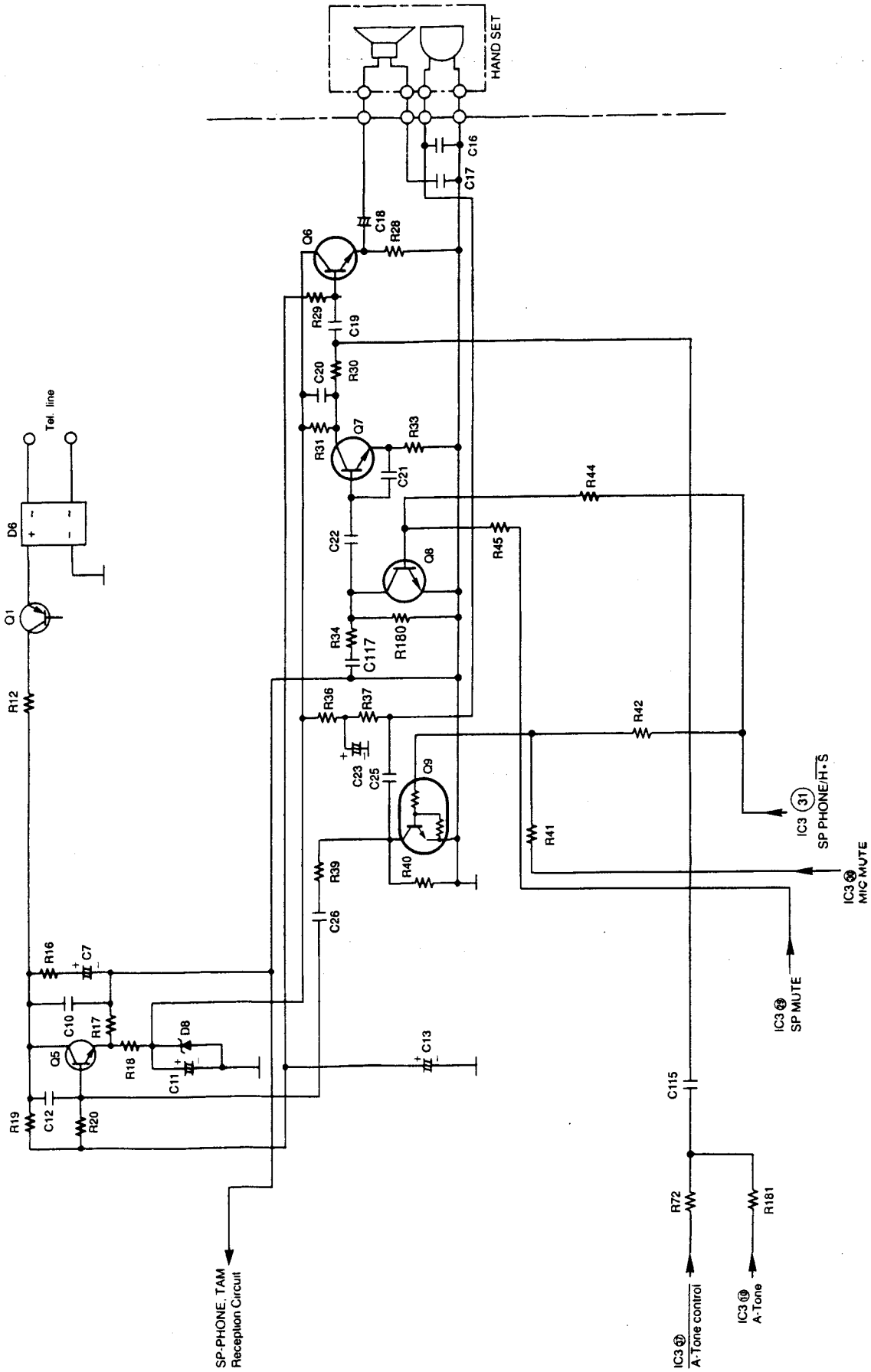
Operation:

- Transmission
  Handset microphone→C25→R40→R39→C26→Q5 base→Q5 collector→R12→Q1→D6→Telephone line.

- Reception
  Telephone line→D6→Q1→R12→R16→C7→C117→R34→C22→Q7 base→Q7 collector→R30→C19→Q6 base→Q6 emitter→C18→Handset speaker
  Q14 turns ON for microphone muting to prevent microphones signal transmission (during DTMF and pulse dialing, in the ON monitor mode, and when the mute switch is ON). (This occurs when IC3 pin 30 high.) Q8 turns ON for speaker muting to prevent the reception signal from being transmitted from the handset speaker (during DTMF and pulse dialing). (This occurs when IC3 pin 29 is high.)
  Q8 turns ON for on monitor operation to prevent the reception signal from being transmitted from the handset speaker (during DTMF and pulse dialing). (This occurs when IC3 pin 31 is high.)

- DTMF, Hold Tone
  Transmission; IC3 pin 37→R74→C114→Q5 base→Q5 collector→D6→Telephone line
  Reception; IC3 pin 37→R72→R73→C115→C19→Q6→C18→Handset speaker

Circuit Diagram

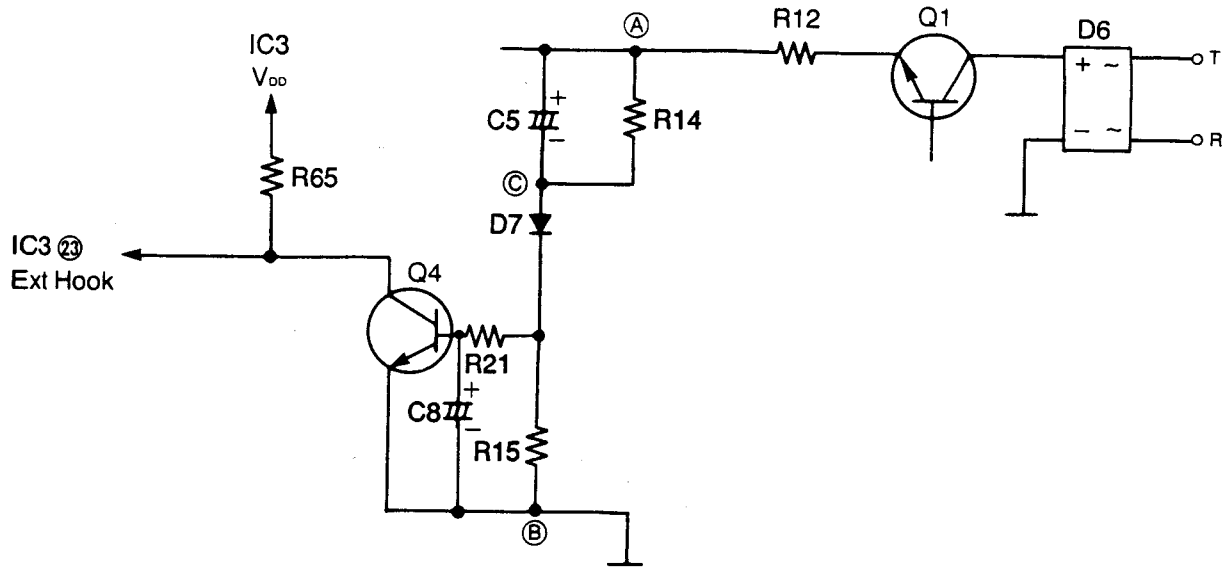


■ CLEARING THE HOLD STATUS AND AUTO DISCONNECT CIRCUIT

Function:
When line recording is taking place in the Hold status or a TAM ANSWER status, this unit will detect the OFF-Hook status of another telephone connected in parallel with the line and then clear the Hold status, and stops recording.

Circuit Operation:
Whe the unit seizes a line a voltage will be applied between points A and B . At this time a voltage will be applied to the base Q4, causing Q4 to turn ON. As a result, the collector of Q4 will go Low, and a Low status will be inputted to IC3 pin 23, thus detecting the fact that the unit has seized the line. Then, when the parallel-connected telephone hoes into an OFF-Hook status, the voltage between A and B will fall. However, the charge on C5 causes the previous voltage between A and C to be retained, hence the voltage between C and B falls. Consequently, the base potential of Q4 falls, causing Q4 to turn OFF and IC3 pin 23 to go High, thus detecting the fact that the parallel-connected telephone is in an OFF-Hook status.

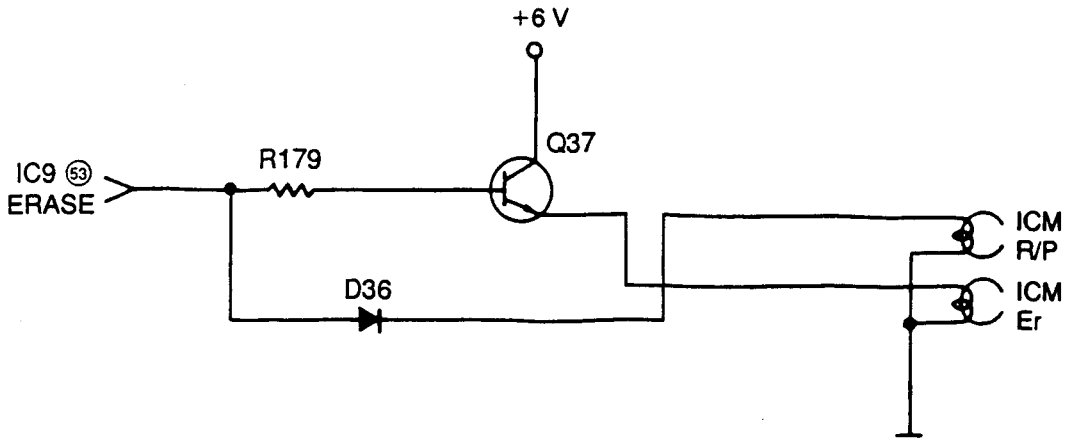
Circuit Diagram



■ QUICK ERASE CIRCUIT

Circuit Operation:
When the Erase Switch is turned on, DC current flows as follows;
IC9 pin 53 (High level)→R179→Q37 (ON) ——→ ICM Erase Head
→ D36 ——→ ICM R/P Head

Circuit Diagram

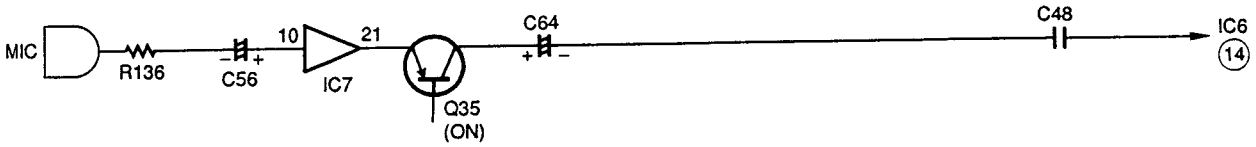


■ OGM SYNTHESIZED VOICE RECORDING/PLAYBACK CIRCUIT

IC7 is a LSI chip for voice recording/playback. IC5 is a dynamic RAM and is used to store the voice data.
When recording, IC7 changes the voice signals to digital data and stores the data on IC5. When playing back, IC7 has access to the data recorded on IC5, and synthesizes the voice signal from the data. IC7 is controled by IC9 (TAM CPU).

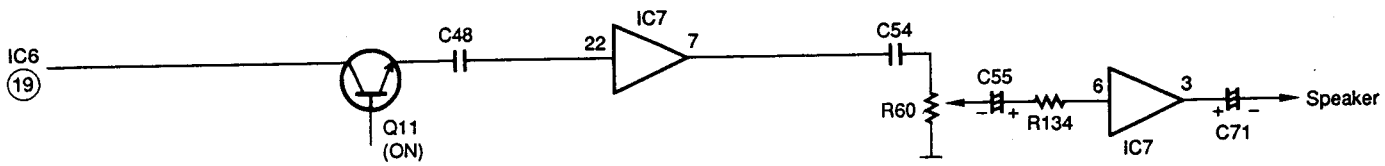
- Record mode
The voice signal that is input from the microphone of IC7 pin 10–21→Q35→48→IC6 pin 14.
At IC7 the voice is analized and changed to digital data to be memorized on IC6.

Circuit Diagram



- Play mode
IC7 synthesizes the voice signal from the data recorded on IC6, and outputs this from pin 19. The playback signal passes IC7 pin 22 (Buffer-in).

Circuit Diagram



■ VOX CIRCUIT

Function:

The VOX circuit is designed to detect cyclic signals in which the signal is ON for 100 msec. to 1 sec., continuous sounds and no sound at all.
After detection, the CPU issues an instruction that makes VOX operation possible.
This means that when a telephone call has ended, the phone is reset and is ready to receive the next call.

Circuit Operation:

The vox signal flows as follows:
IC7 pin 22→IC7 pin 25→IC9 pin 52 (VOX).

Circuit Diagram ... Refer to the page **29.**

■ CPC (CALLING PARTY CONTROL) DETECTOR CIRCUIT

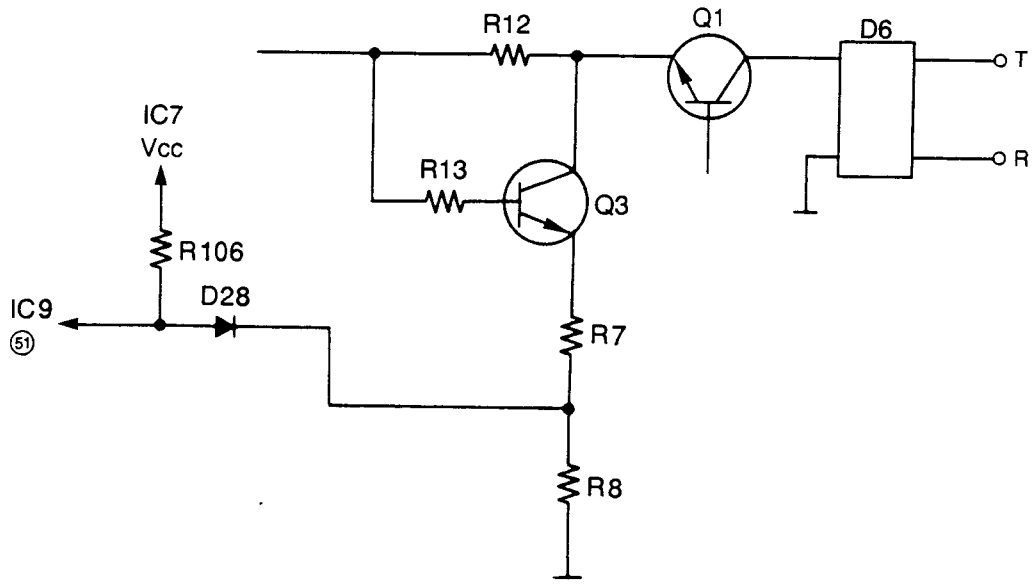
Function:

The CPC DETECTOR complements the units shut off, in the ANSWER mode, after the caller hangs up. At this time, the CPC DETECTOR takes over. The CPC DETECTOR senses the temporary disconnection of the telephone line which occurs after the caller hangs up.

Circuit Operation:

When the unit seizes a line, current will flow through D6, Q1 and R12. As a result, voltage will be applied across both ends of R12, causing current to flow to the base of Q3 via R13, causing Q3 will turn ON. Consequently, voltage will be applied across both ends of R7 and R8. As a result, IC1 pin 51 will go High through D28. If then the line is momentarily cut, line current will cease to flow, and voltage will no longer be applied across R12, thus and Q3 will turn OFF. IC7 pin 51 will go Low, hence this condition will be detected.

Circuit Diagram



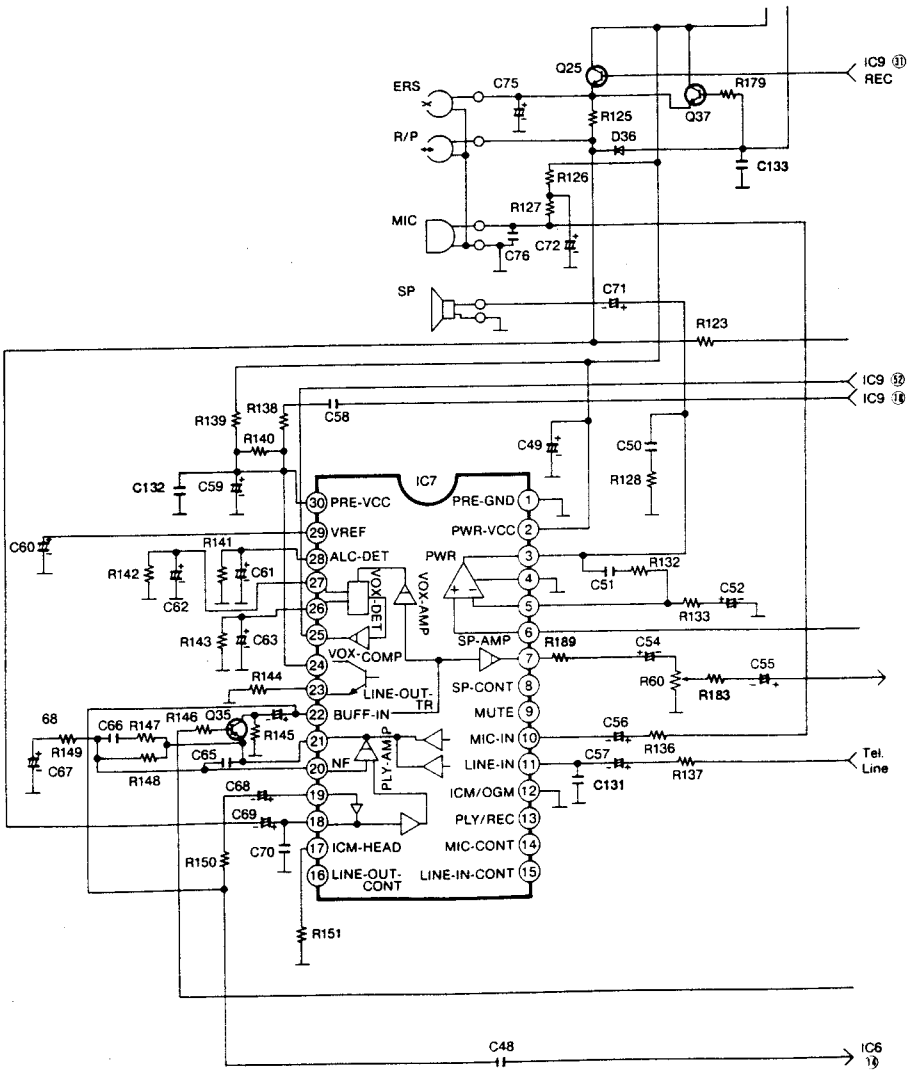
■ RECORD CIRCUIT (ICM)

Circuit Operation:
(Recording Signals)
Recording an input signal from the telephone line or MIC is selected by IC7.
The recording signal flows as follows:
Mic→R136, C56→IC7 pin 10→IC7 pin 21→Q35 emitter→Q35 collector→C64→R150→C68→IC7 pin 19→IC7 pin18→C69→ICM Head
Tel. Line→R137, C57→IC7 pin11→IC7 pin 21→Q35 emitter→Q35 collector→C64→R150→C68→IC7 pin 19→IC7 pin 18→C69→ICM Head

(Signal)
The beep tone is generated by IC9.
The beep tone of the ICM recording (IC9) is processed to the ICM recording head via C73 and R123.
The alarm beep which is emitted during 2-way recording flows from IC9 pin 18 through R129, C74, then to Q5 and the line. The resulting signal is recorded from the line.

(Erase)
When in the Rec mode, pin 53 of IC9 is High.
The voltage is applied to the Erase Head, thus the Erase Head is activated.
The bias current is applied to the R/P Head via Q25 and R125.
The DC current is as follows:
IC9 pin 53→R179→Q37→Erase Head

Circuit Diagram

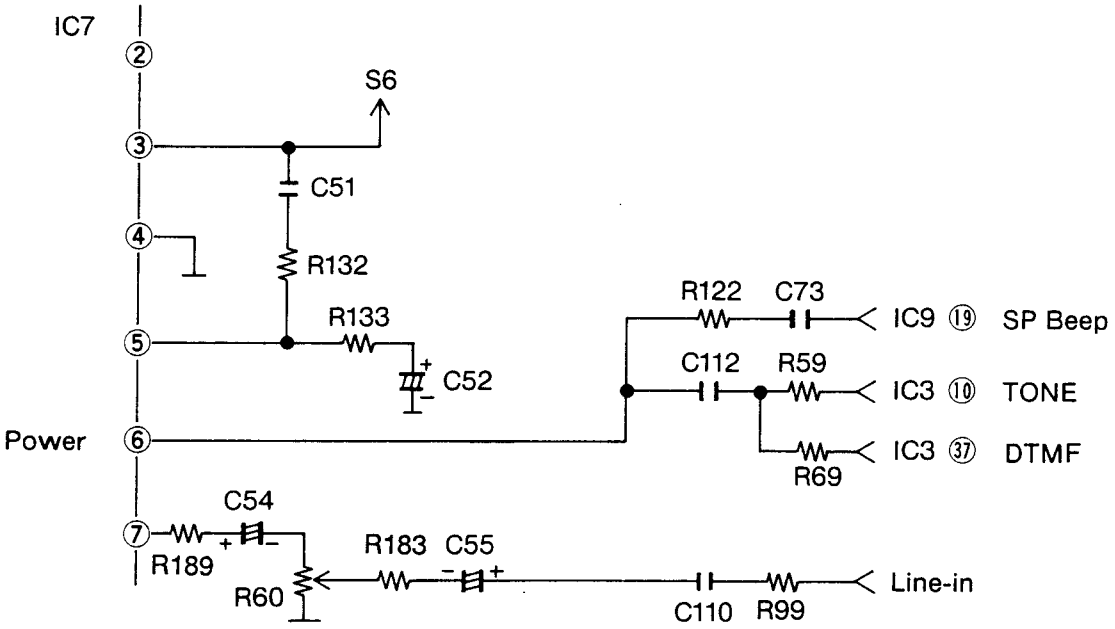


■ MONITOR CIRCUIT AND SPEAKER MUTE CIRCUIT

Circuit Operation:

The monitor signal flow is as follows:
IC 7 pin7→C54→R60 (VR)→C55→R134→IC7 (6-3)→C71→Speaker
A mute circuit is also provided to eliminate speaker noise, hum, etc. The power amplifier is switched off in IC7 and Muting is accomplished except when the monitor tone is outputting.
The speaker beep tone path: IC9 pin 19→C73→R122→IC7 (pin 6-pin 3)→C71→Speaker
The tone path: IC3 pin 10→R59→C112→IC7 (pin 6-pin 3)→C71→Speaker.
Monitor Reception Signal path: Q31 collector→C124→Q30→C125→R99→C110→R134→IC7 pin 6.
At this time, the MUTE is cleared, and sound is heard from the speaker.
DTMF, Audible tone path: IC3 pin 37→R69→C112→IC7 (pin 6-pin 3)→C71→Speaker.

Circuit Diagram



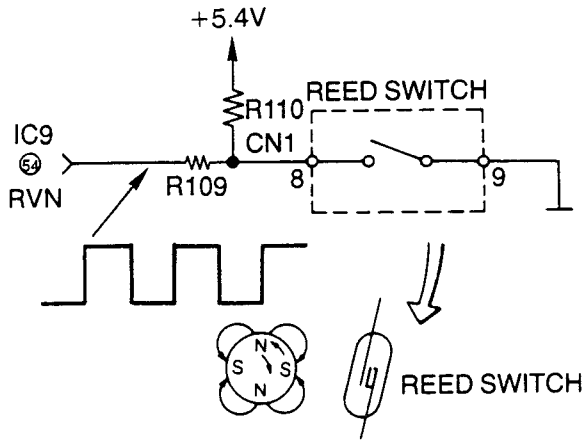
■ ICM TAPE ROTATION DETECTOR CIRCUIT

Circuit Operation:

The changes in the direction of the magnetic field caused by the rotation of the four-pole ferrite magnet are detected by the Reed Switch; this output is added to the microcomputer input.

Reed Switch →R109→IC9 pin 54

Circuit Diagram



■ INITIALIZE CIRCUIT

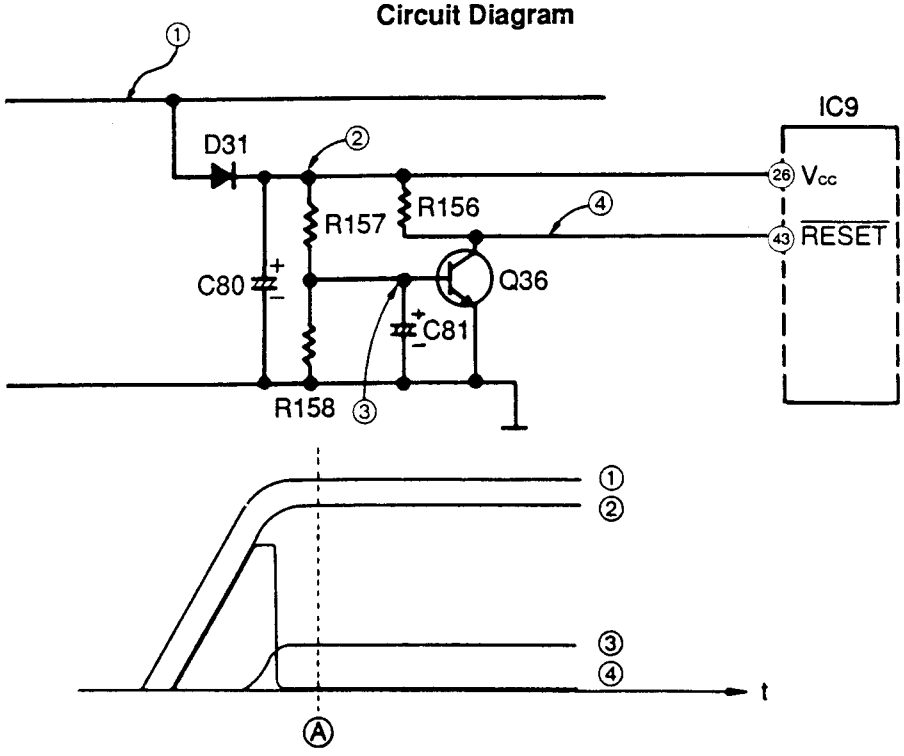
Function:

This circuit is used for initializing the microcomputer when the AC adaptor is applied.

Circuit Operation:

When the unit is switched ON. Then the voltage is shifted by D31 and power is supplied to the CPU.
The voltage needed to reset the CPU is supplied from the collector of Q36.
When Q36 becomes ON and the reset terminal voltage drops the CPU has been reset, and the set can operate beyond point A in the circuit voltage diagram.

Circuit Diagram



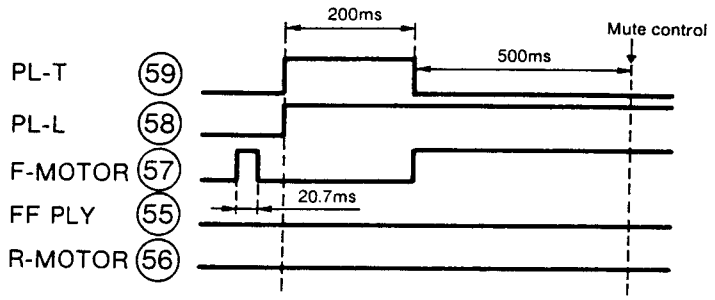
■ TAPE TRANSPORT CONTROL

Circuit Operation:

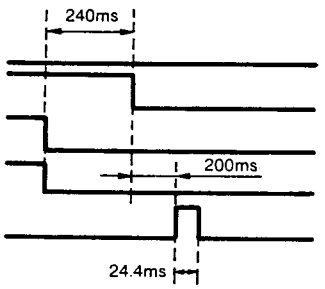
The timing for the plunger and motor which are used to operate the deck is as shown in the timing chart.

Timing Chart

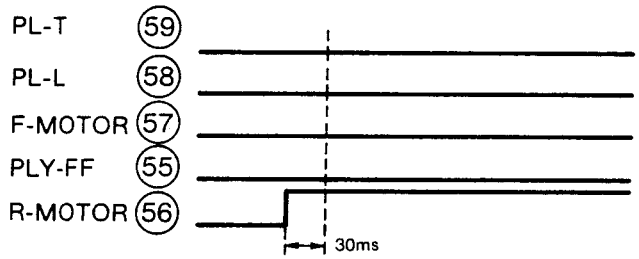
• PLAY/REC



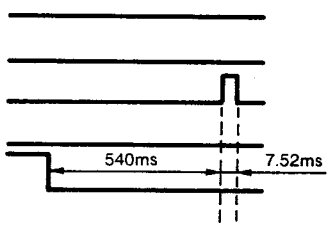
• STOP



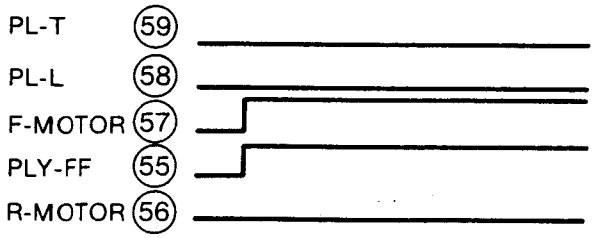
• REW



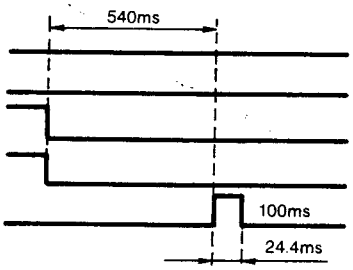
• STOP



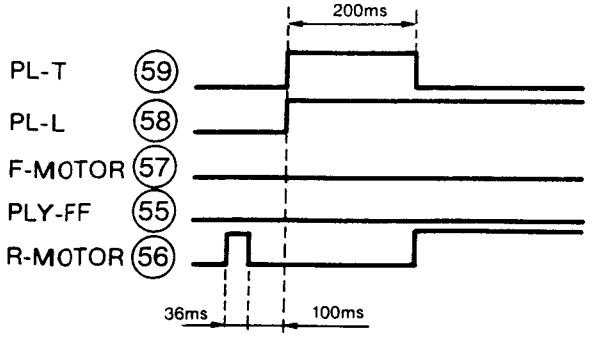
• FF



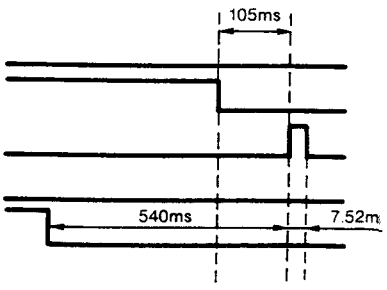
• STOP



• ERASE



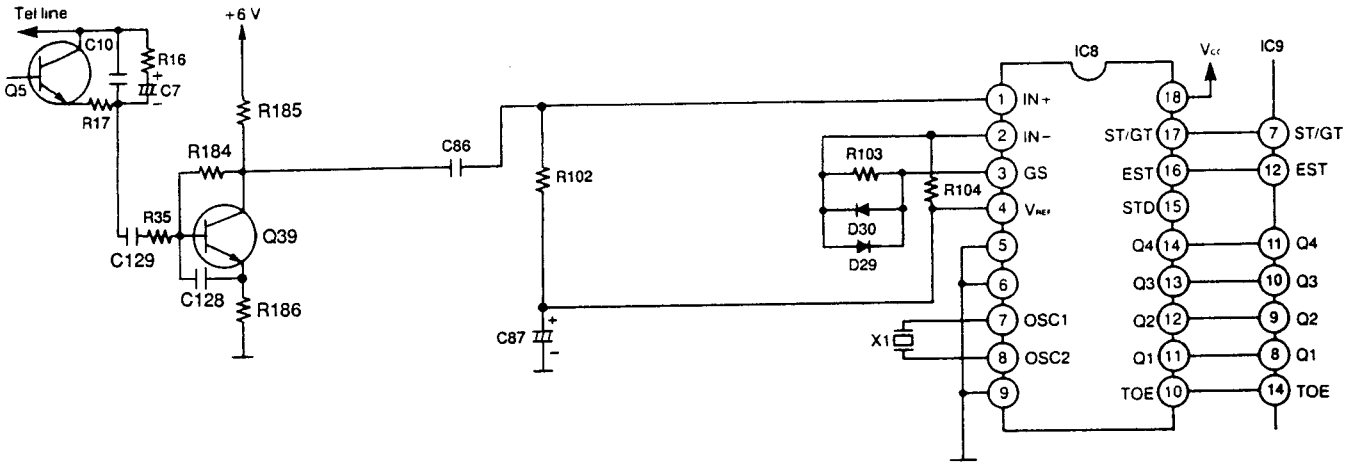
• STOP



■ REMOTE SIGNAL DETECTOR CIRCUIT

Circuit Operation:
A remote control signal is used with the dual-tone multiple-frequency (DTMF) signal.
The remote signal output from the telephone line is amplified by Q39, via Q5. And it is inputted to pin ② of IC8 passes through the bandpass filter.
The DTMF signal is inputted to IC8 which changes the code of the 4 bit and is inputted to IC9.

Circuit Diagram

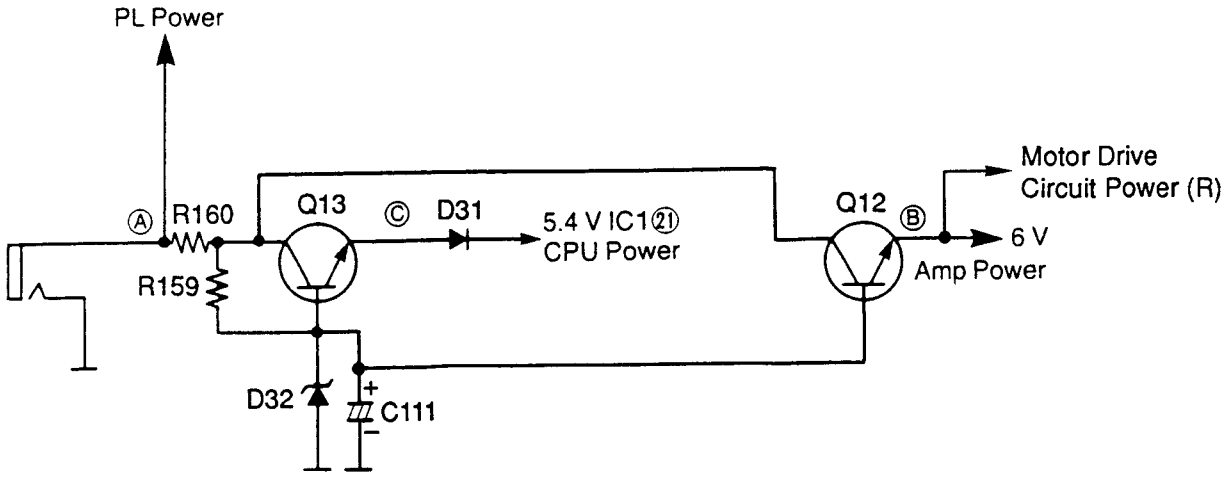


■ POWER SUPPLY CIRCUIT

Function
Power from the AC adaptor passes through a 2-stage regulating block consisting of Q13 and Q12 and provides system voltages of 6V.

Circuit Operation:
Power from the AC adaptor is supplyed directly to the plunger (A). Q12 is the regulated power supply. The voltage at point B is regulated to 6 V by the 6.8 V zener voltage of D32→Amp power. Q13 is the regulated power supply. The voltage at point C is regulated to 6 V by the zener voltage of D32. The 6 V voltage is shifted by D31 to 5.4.

Circuit Diagram



■ SPEAKERPHONE CIRCUIT

Function:
This circuit controls the automatic switching of the transmitted and received signals, to and from the telephone line, when the unit is used in the hands-free mode.

Circuit Operation:
The Speakerphone can only provide an one-way communication path.
In other words, it can either transmit an outgoing signal or receive an incoming signal at a given time, but cannot do both simultaneously. Therefore, a switching circuit is necessary to control the flow of the outgoing and incoming signals. This switching circuit is contained in IC11 and consists of a Voice Detector, Tx or the Rx (receive) signal is louder, and then it processes the signals such that the louder signal is given precedence.
The Voice Detector provides a DC input to the Attenuator Control corresponding to the Tx signal.
The Comparator receives a Tx and a Rx signal, and supplies a DC input to the Attenuator Control corresponding to the Rx signal.
The Attenuator Control provides a control signal to the Tx and the Rx volume control to automatically adjust for changing ambient conditions.

1) Transmission Signal Path
The input signal from the microphone is set though the circuit via the following path:
- Mic→pin 11 of IC7→pin 10 of IC11→pin 3 of IC11→pin 4 of IC11→R89→C106→interface (Q5)→telephone line.

2) Reception Signal Path
Signals received from the telephone line are outputted at the speaker via the following path:
- telephone line→interface (Q5)→pin 19 of IC11→pin 15 of IC11→pin 27 of IC11→pin 26 of IC11→pin 19 of IC11→pin 15 of IC11→pin 6 of IC7→pin 3 of IC7 (power amp)→speaker.

3) Control Signal Path
Control signals for transmission and reception are inputted to IC3 via the following path:
(Transmission Control Signal Path)
- Mic→pin 9 of IC11→pin 10 of IC11→pin 3 of IC11→pin 4 of IC11→pin 5 of IC11.

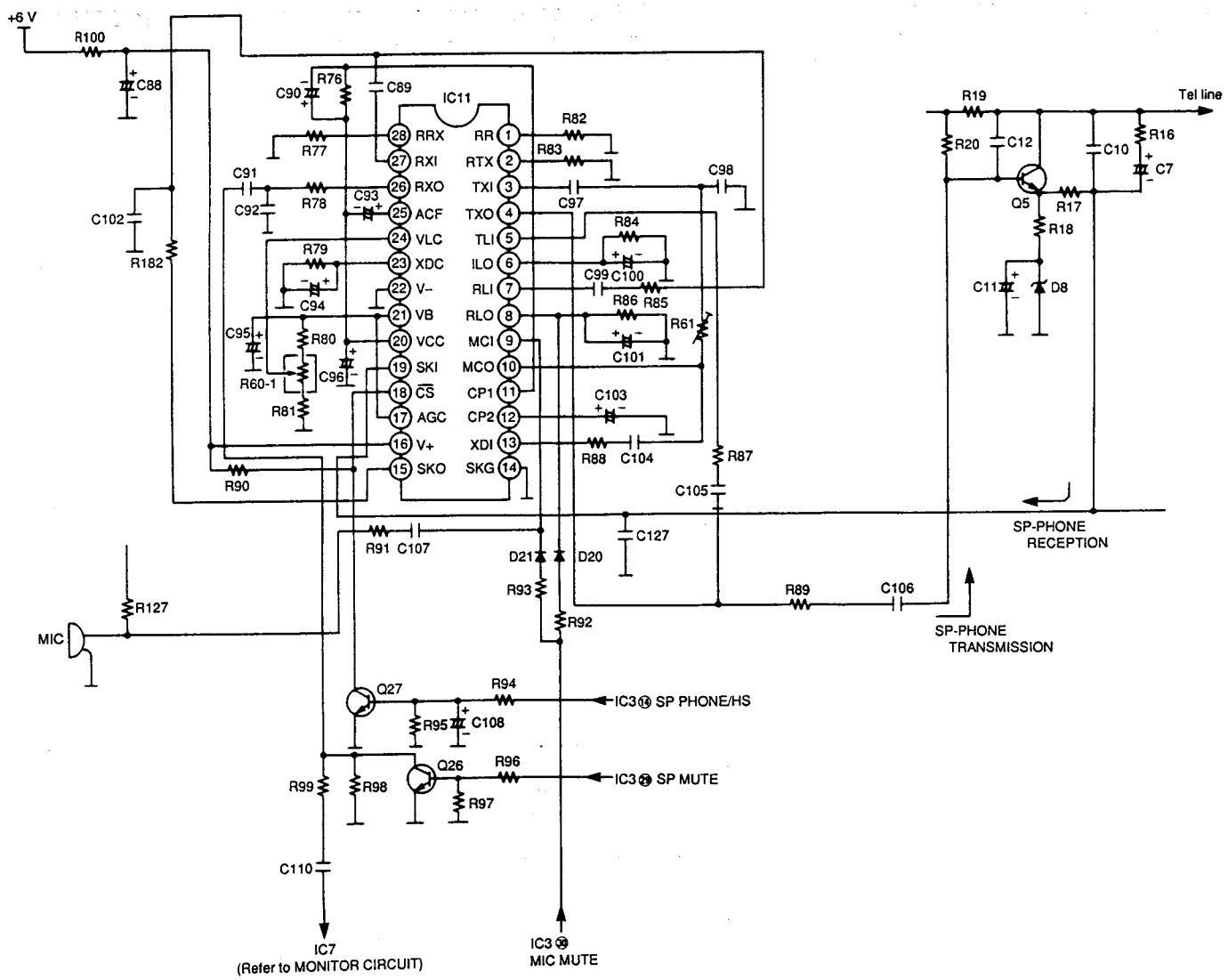
(Reception Control Signal Path)
- telephone line→interface (Q5)→pin 19 of IC11→pin 15 of IC11→pin 7 of IC11.

4) Transmission/Reception Switching
The comparison result between Tx and Rx outputs as a DC level of IC11 pin 23.
Tx level is high...pin 23=pin 20-6 mV
Rx level is high...pin 23=pin 20-150 mV
- Comparator output is connected to the attenuator control inside of IC11.

5) Voice Detector
The output of the mic amp (pin 10 of IC11) is supplied to pin 13 of IC11 as a control signal for the voice detector.

6) Attenuator Control
The attenuator control detects the setting of the volume control through pin 24 of IC11 to automatically adjust for changing ambient conditions.

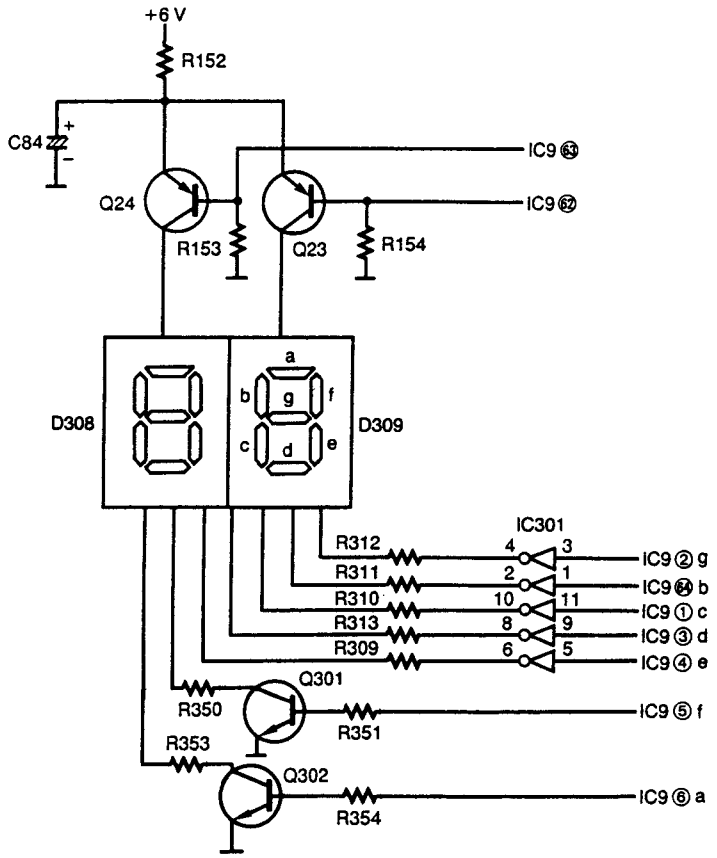
Circuit Diagram



■ LED DRIVE CIRCUIT

IC9 pins 62 and 63 select the digit while pins 1, 2, 3, 4, 5, 6, 64 select each segment. For example, when D308 "a" is lit, IC9 pin 63 becomes a Low and Q24 is turned on. IC9 pin 2 becomes a High and Driver IC301 pin 4 is Low. Therefore, the current (+6V) flows from Q24→D308→R312→ground and D308 "a" lights up.

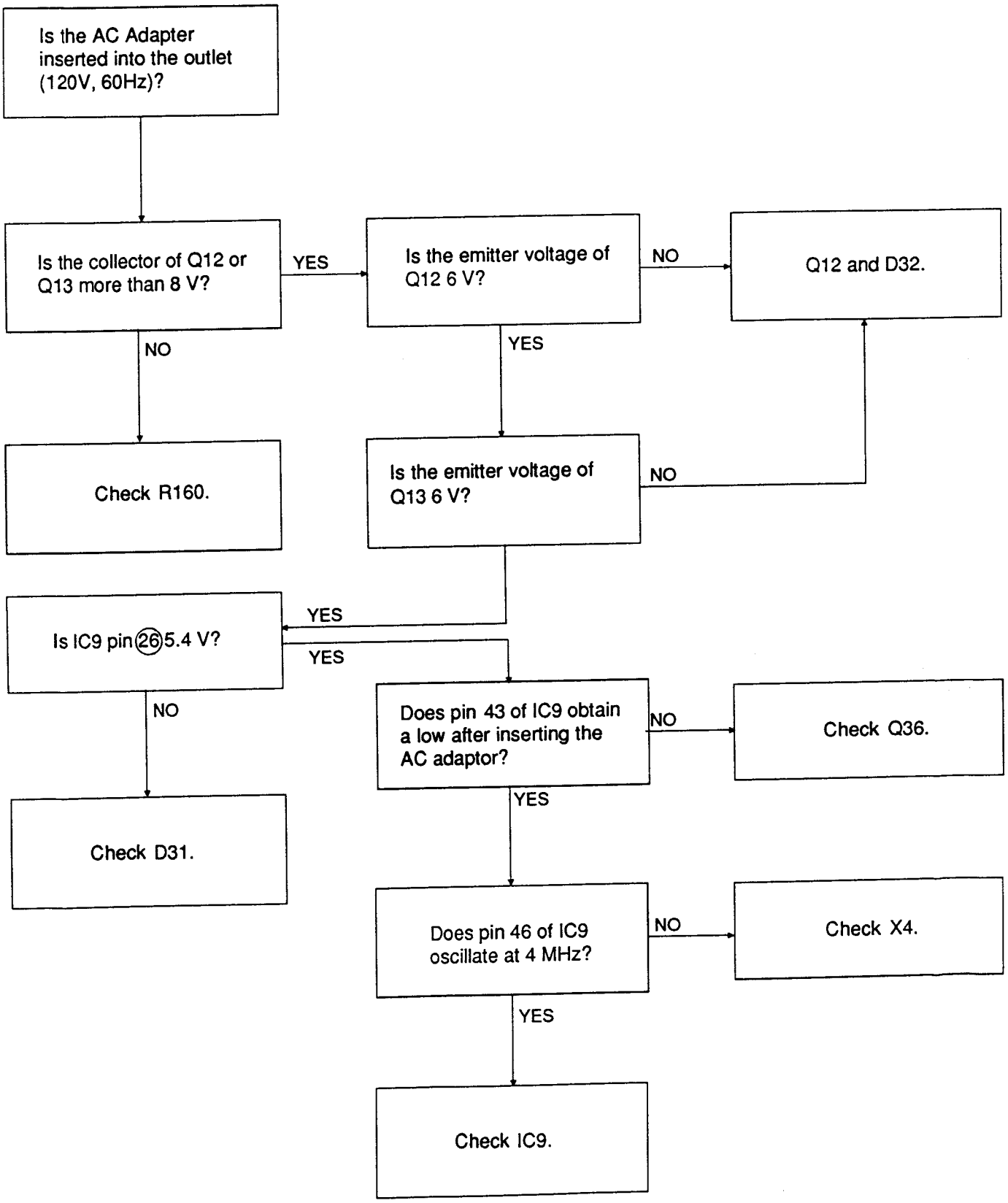
Circuit Diagram



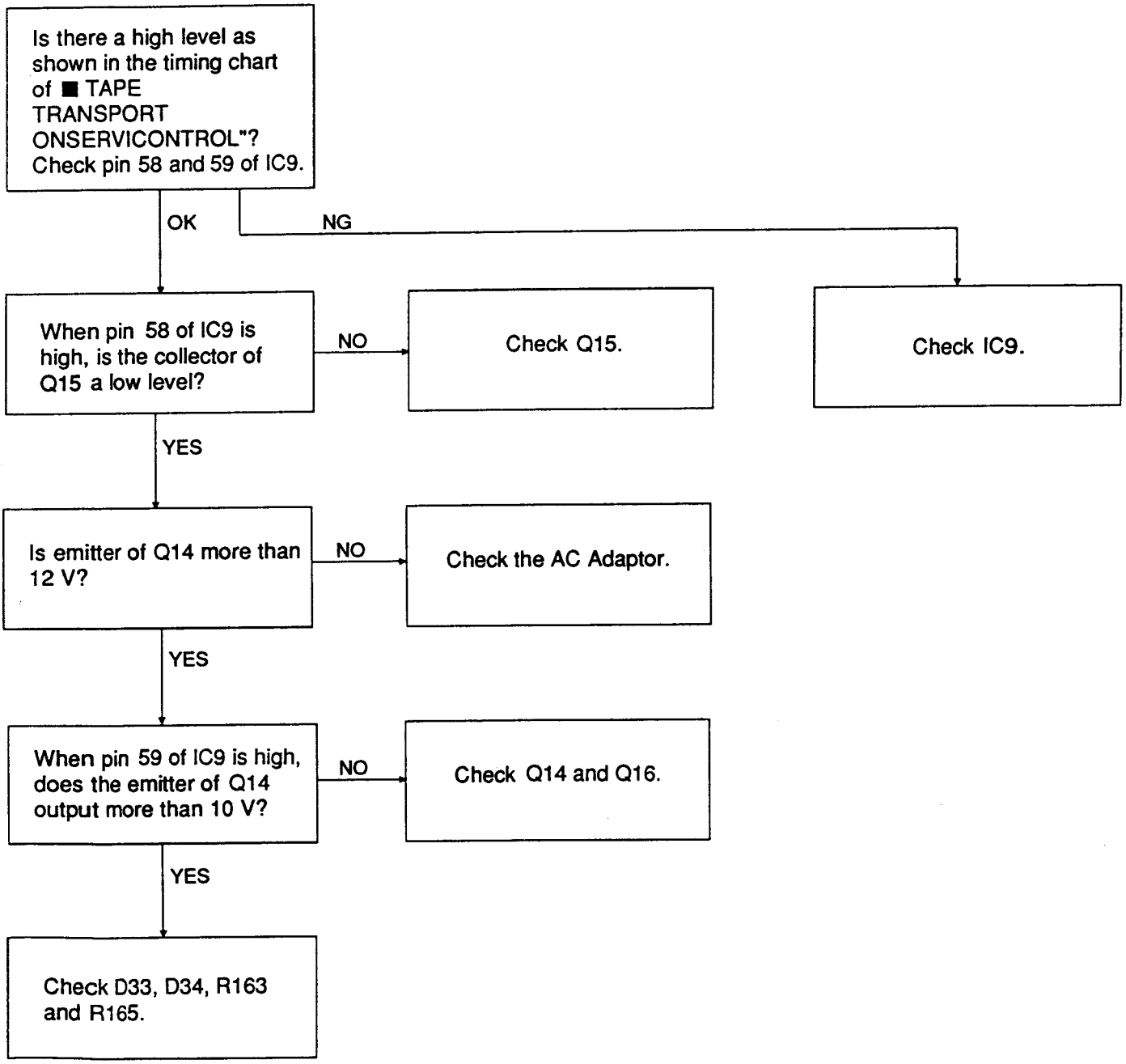
TROUBLESHOOTING GUIDE

(TAM)

1) NO FUNCTIONS OPERATE.

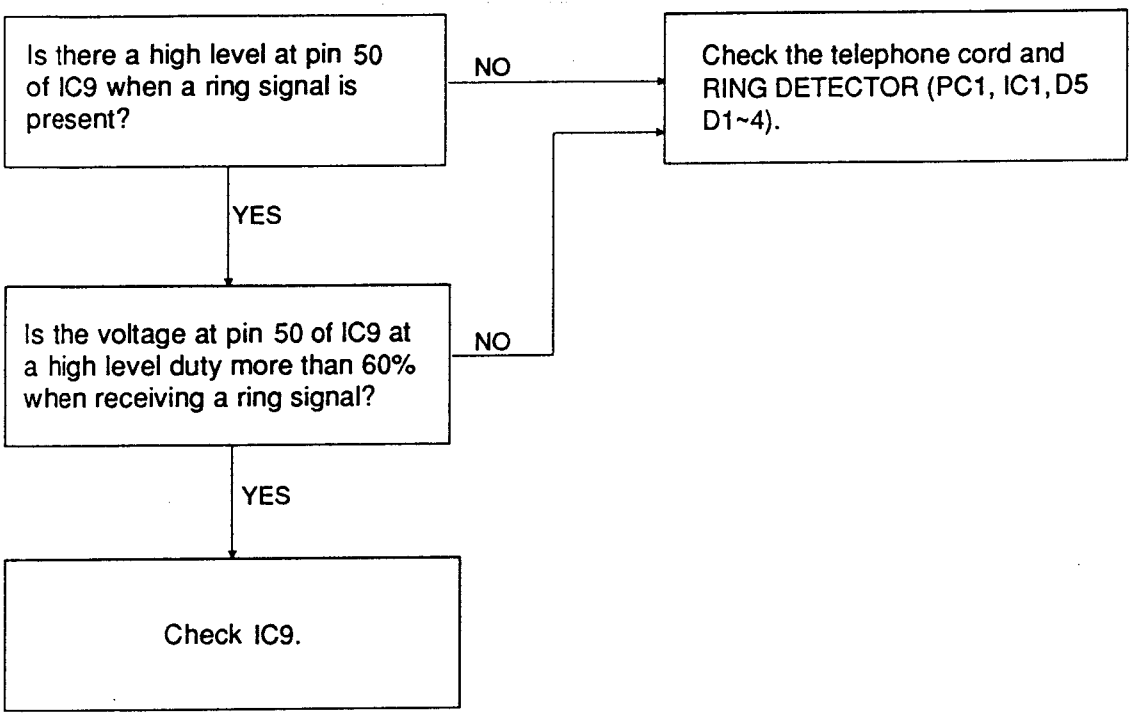


2) THE PULL OF PLUNGER IS POOR OR NOT AT ALL.


Is there a high level as shown in the timing chart of ■ TAPE TRANSPORT ONSERVICONTROL"? Check pin 58 and 59 of IC9.
OK
NG
When pin 58 of IC9 is high, is the collector of Q15 a low level?
NO
Check Q15.
Check IC9.
YES
Is emitter of Q14 more than 12 V?
NO
Check the AC Adaptor.
YES
When pin 59 of IC9 is high, does the emitter of Q14 output more than 10 V?
NO
Check Q14 and Q16.
YES
Check D33, D34, R163 and R165.

3) FAST ERASE DOES NOT WORK.
Check Q37 and D36.

4) DOES NOT ANSWER TELEPHONE CALL


Is there a high level at pin 50 of IC9 when a ring signal is present?
NO
Check the telephone cord and RING DETECTOR (PC1, IC1, D5 D1~4).
YES
Is the voltage at pin 50 of IC9 at a high level duty more than 60% when receiving a ring signal?
NO
YES
Check IC9.

5) • ICM CONTINUES TO RECORD AFTER THE CALLER HANGS UP.
• END OF MESSAGE CLIPPED WHEN CALLER HANGS UP.

When caller hangs up, the KX-T2632 can detect the following 4 signal type.

A. CPC pulse.
B. Dial tone or other continuous tones.
C. Silence.
D. Cyclic signals.

A. Check CPC DETECTOR CIRCUIT (Q3, R12, R13, R7, R8, R57, R107, D28, IC9 pin 51.)
B., C., D.
Check VOX DETECTOR (IC9 pin 52).

6) REMOTE CONTROLLER DOES NOT WORK/RESPONSE IS POOR.
The following are considered for the causes of no remote reception:

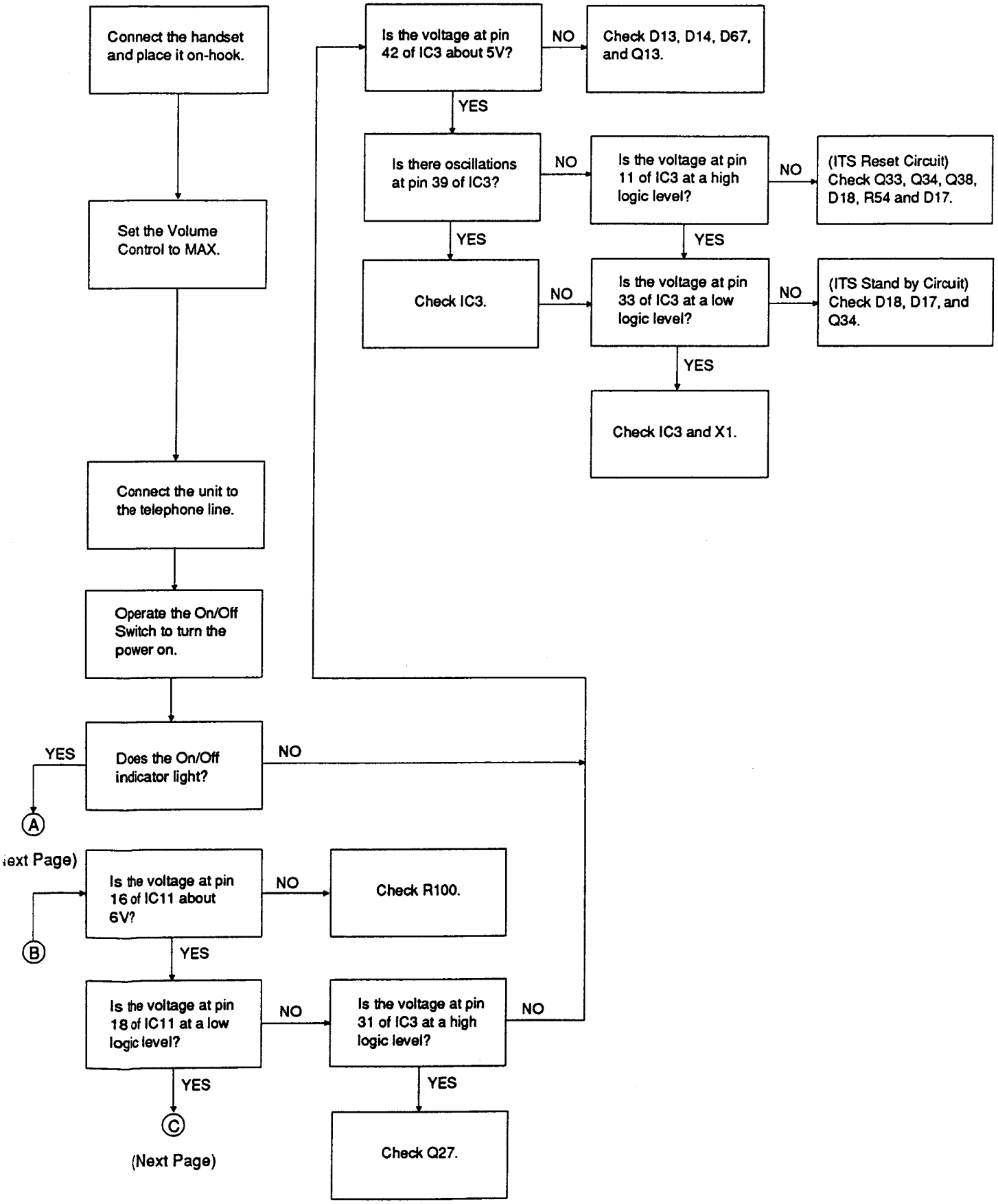
A. Is the security code the same as set on the unit.
B. High distortion in LINE OUTPUT CIRCUIT causing interference between the transmitting signal and the remote signal.
C. Excessive loss in telephone line.

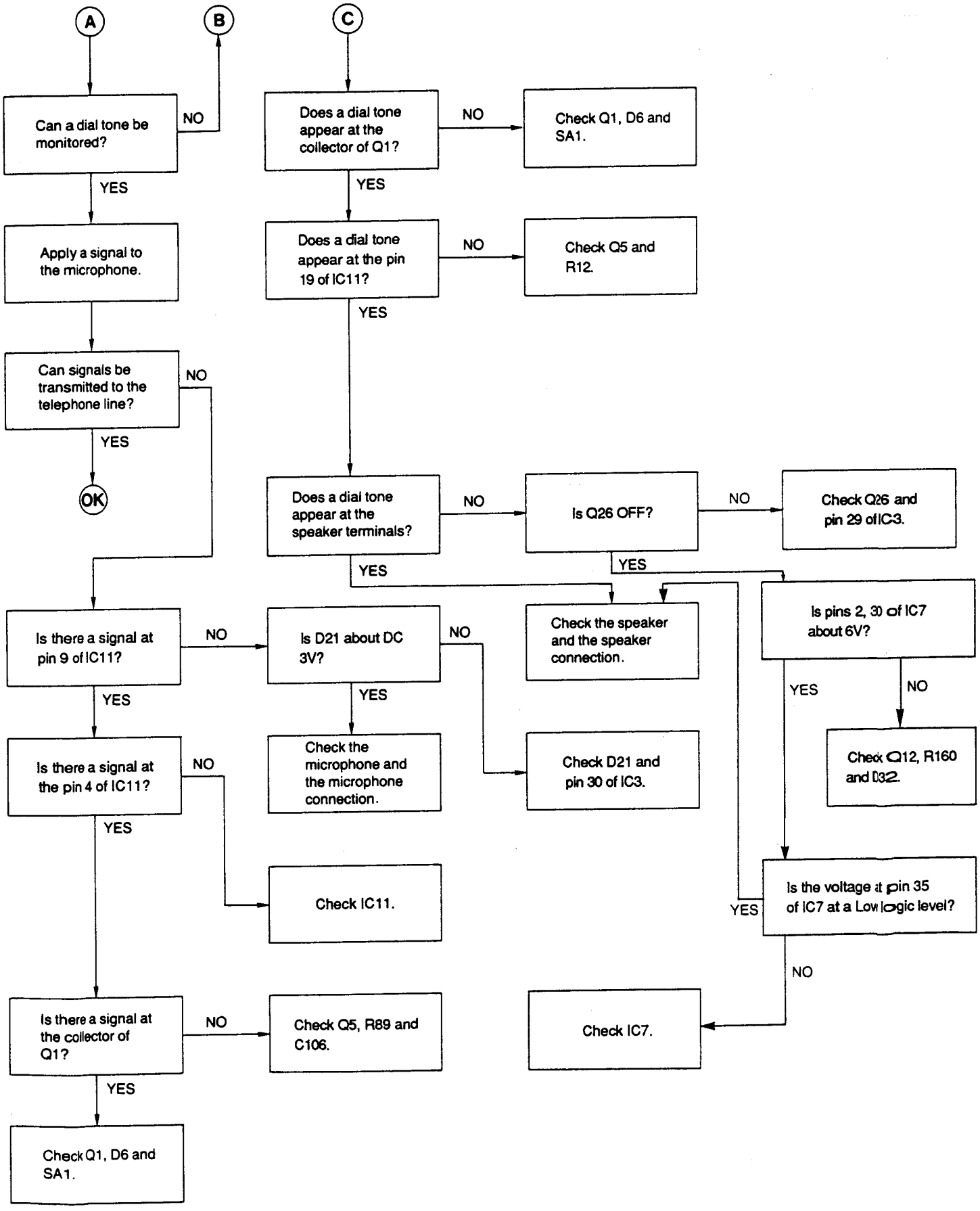
A. Check the security code of the unit.
B. Check LINE OUTPUT CIRCUIT (Q5).
C. Test on telephone line known to be working properly.

* If all of the above check N.G., check the remote controller detect circuit (IC8).

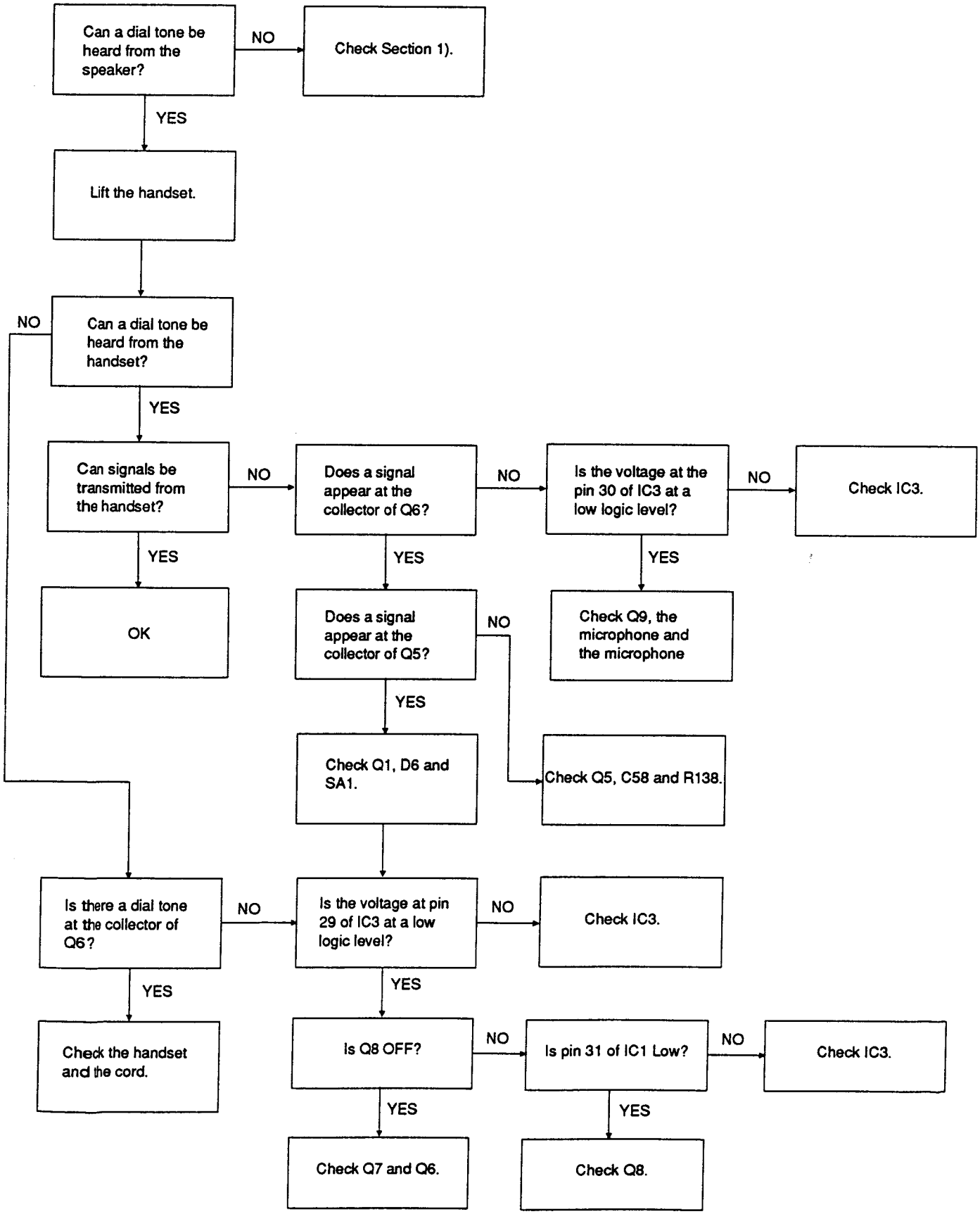
(ITS)

1. UNIT DOES NOT TURN ON

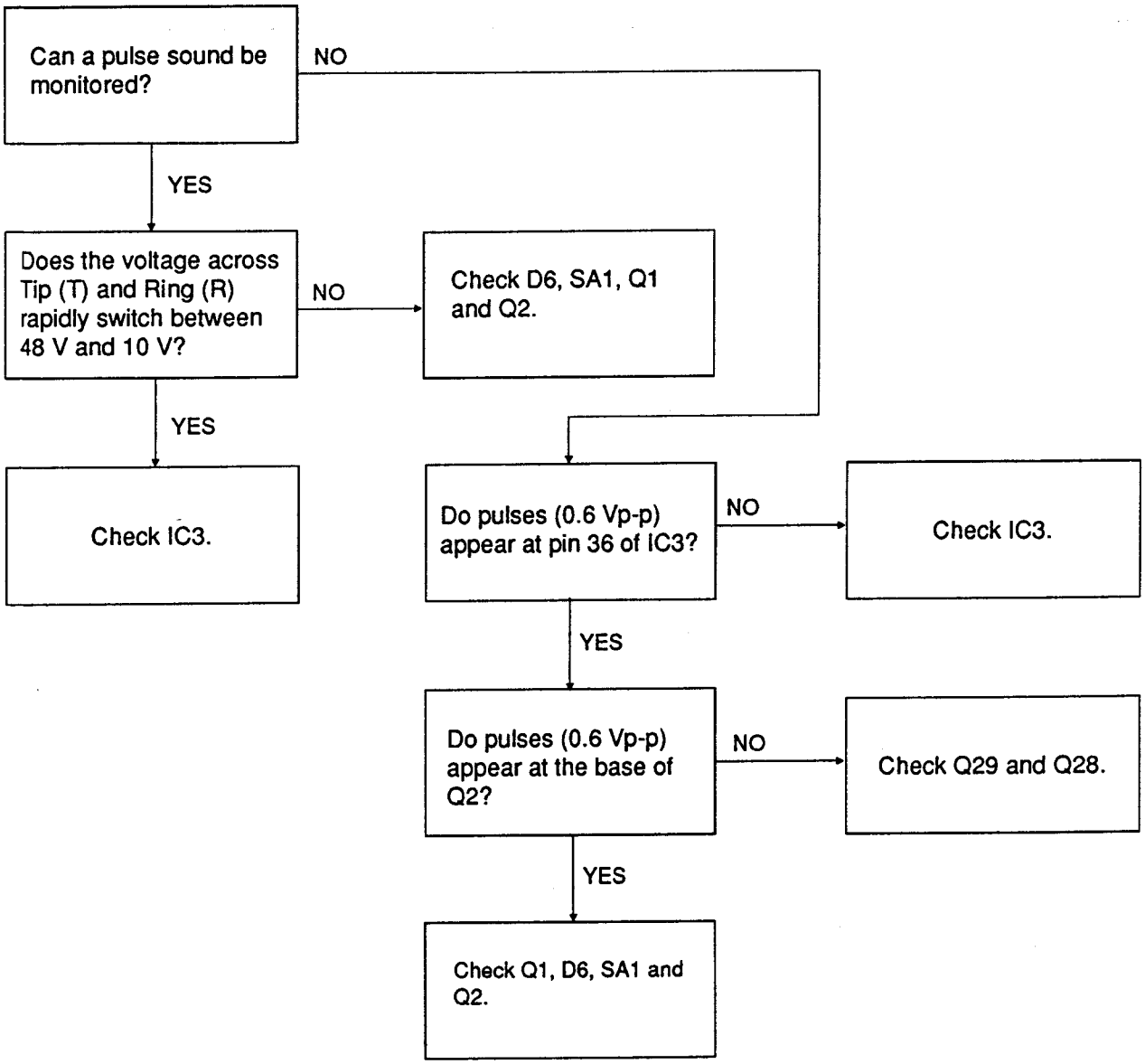

Connect the handset and place it on-hook.
Set the Volume Control to MAX.
Connect the unit to the telephone line.
Operate the On/Off Switch to turn the power on.
Does the On/Off indicator light?
YES
NO
A
ext Page)
Is the voltage at pin 16 of IC11 about 6V?
NO
Check R100.
B
YES
Is the voltage at pin 18 of IC11 at a low logic level?
NO
Is the voltage at pin 31 of IC3 at a high logic level?
NO
YES
YES
C
(Next Page)
Check Q27.
Is the voltage at pin 42 of IC3 about 5V?
NO
Check D13, D14, D67, and Q13.
YES
Is there oscillations at pin 39 of IC3?
NO
Is the voltage at pin 11 of IC3 at a high logic level?
NO
(ITS Reset Circuit) Check Q33, Q34, Q38, D18, R54 and D17.
YES
YES
Check IC3.
NO
Is the voltage at pin 33 of IC3 at a low logic level?
NO
(ITS Stand by Circuit) Check D18, D17, and Q34.
YES
Check IC3 and X1.


A
B
C
Can a dial tone be monitored?
NO
YES
Apply a signal to the microphone.
Can signals be transmitted to the telephone line?
NO
YES
OK
Is there a signal at pin 9 of IC11?
NO
YES
Is there a signal at the pin 4 of IC11?
NO
YES
Is there a signal at the collector of Q1?
NO
YES
Check Q1, D6 and SA1.
Check Q5, R89 and C106.
Check IC11.
Does a dial tone appear at the collector of Q1?
NO
YES
Check Q1, D6 and SA1.
Does a dial tone appear at the pin 19 of IC11?
NO
YES
Check Q5 and R12.
Does a dial tone appear at the speaker terminals?
NO
YES
Is Q26 OFF?
NO
YES
Check Q26 and pin 29 of IC3.
Is D21 about DC 3V?
NO
YES
Check the microphone and the microphone connection.
Check D21 and pin 30 of IC3.
Check the speaker and the speaker connection.
Is pins 2, 30 of IC7 about 6V?
YES
NO
Check Q12, R160 and D32.
Is the voltage at pin 35 of IC7 at a Low logic level?
YES
NO
Check IC7.

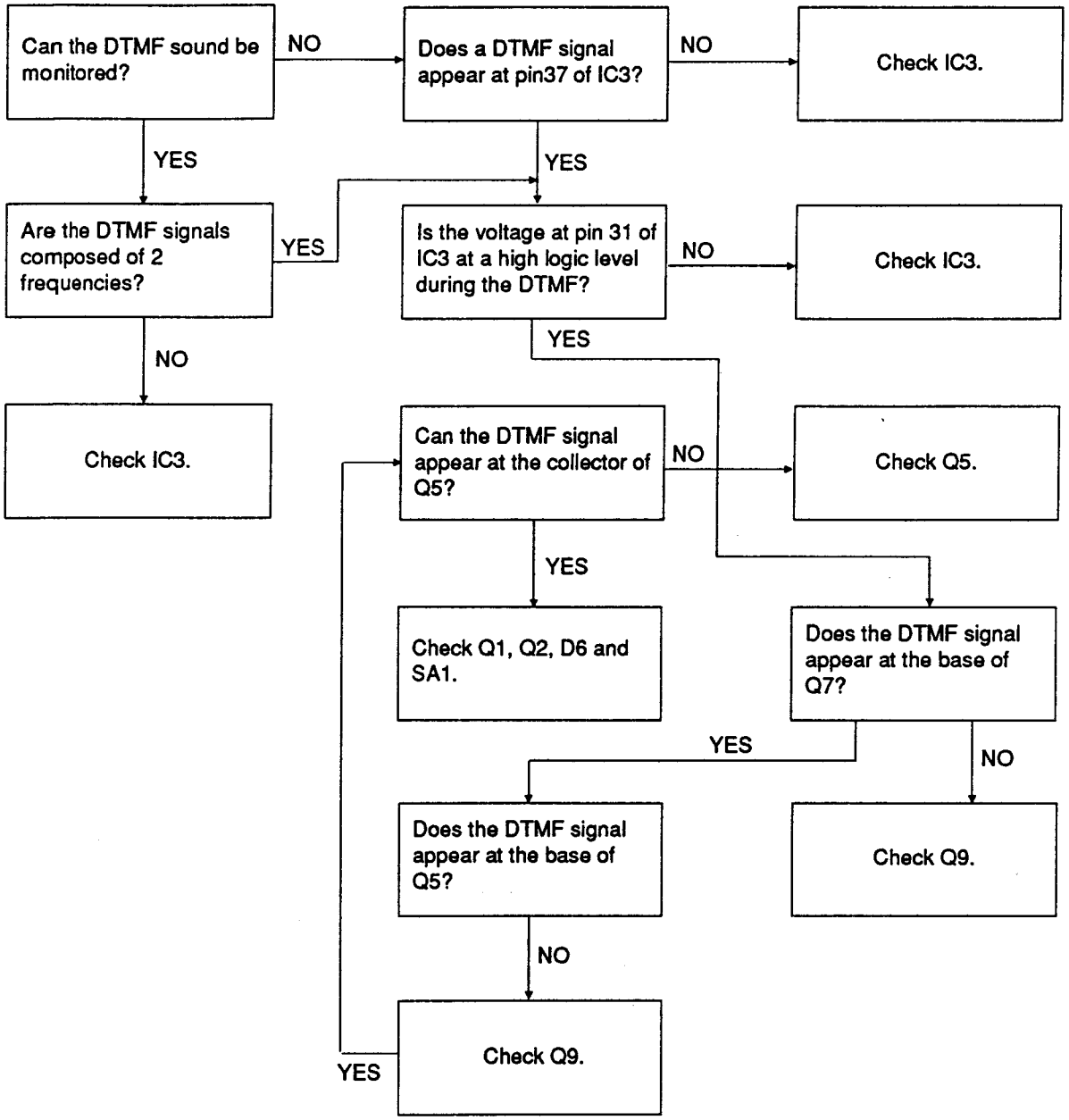
2) PROBLEMS WITH THE HANDSET



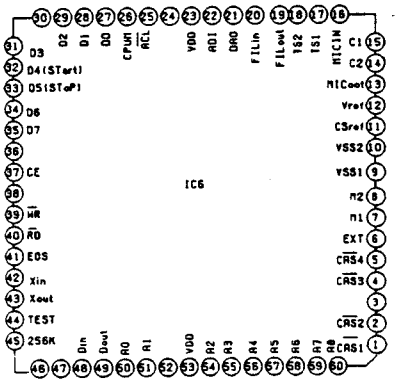
3) PULSE DIALING PROBLEMS


Can a pulse sound be monitored?
NO
YES
Does the voltage across Tip (T) and Ring (R) rapidly switch between 48 V and 10 V?
NO
Check D6, SA1, Q1 and Q2.
YES
Check IC3.
Do pulses (0.6 Vp-p) appear at pin 36 of IC3?
NO
Check IC3.
YES
Do pulses (0.6 Vp-p) appear at the base of Q2?
NO
Check Q29 and Q28.
YES
Check Q1, D6, SA1 and Q2.

4) TONE DIALING PROBLEMS

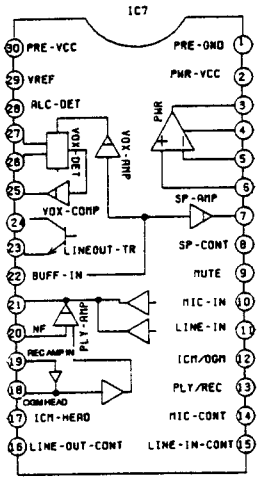


■ CPU DATA



Operation:

- Pin1,2 are colume, address, strobe output. Uses from $\overline{CAS}$, in order according to the number of D-RAM.
- Pin7,8 are input terminal which programs the number of D-RAM connected to the external.
- Pin9 is degital ground.
- Pin10 is analog ground.
- Pin13 is Mic AMP output.
- Pin16 is Mic AMP input.
- Pin19,20 are Bandpass Filter input or output.
- Pin21 is the Analog signal output.
- Pin22 is the Analog signal input.
- Pin23,53 are the + power source terminals.
- Pin25 is input the reset signal terminal.
- Pin26 is the CPU control terminal.
- Pin32 is for control TAM's CPU start input.
- Pin33 is for control TAM's CPU stop input.
- Pin39 is write pulse input terminal in the CPU control. It becomes Recording/Playback switching terminal in the manual control. Recording mode in the High level and playback mode in the Low level.
- Pin41 is end of speech output.
- Pin45 is 256K bit terminal.
- Pin46~49 are D-RAM control.
- Pin50,51,54~60 are D-RAM data Bus.



Pin No.	Function	Pin No.	Function
1	Pre GND	16	LIN-out logic
2	Power Vcc	17	ICM head
3	Power out	18	OGM-head
4	Power GND	19	REC-amp in
5	Power NF	20	PLAY-amp NF
6	Power in	21	Pre out
7	Speaker amp out	22	Buffer in
8	Speaker logic	23	Line-out amp emitter
9	Mute logic	24	Line-out amp colector
10	MIC-amp in	25	VOX-comparator out
11	Line-amp in	26	VOX detector
12	ICM/OGM logic	27	VOX adjust
13	PLY/REC logic	28	ALC detector
14	MIC logic	29	Vref
15	Line-in logic	30	Pre-Vcc

CASSETTE DECK PARTS LOCATION

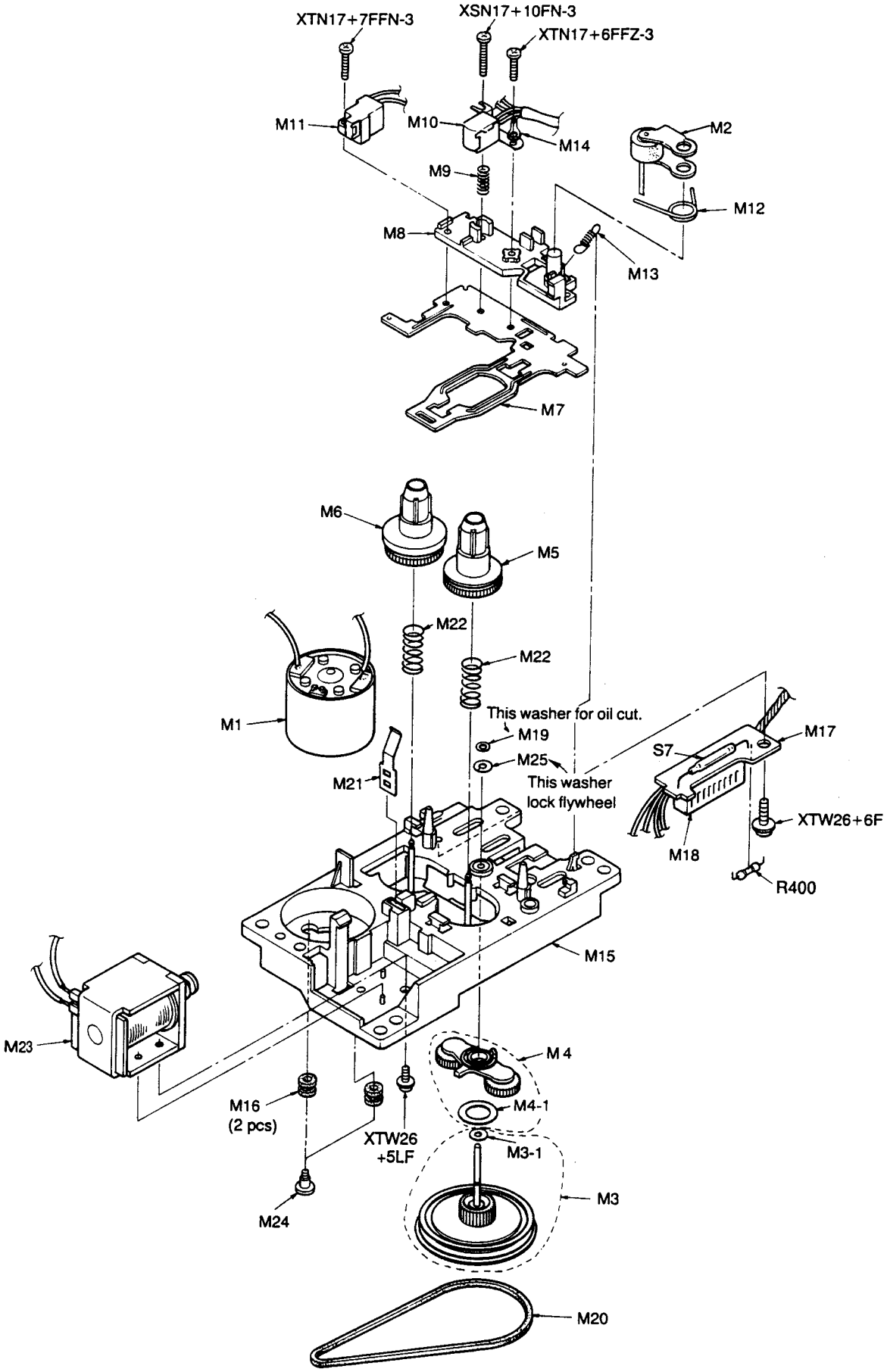


Fig. 17

CABINET AND ELECTRICAL PARTS LOCATION

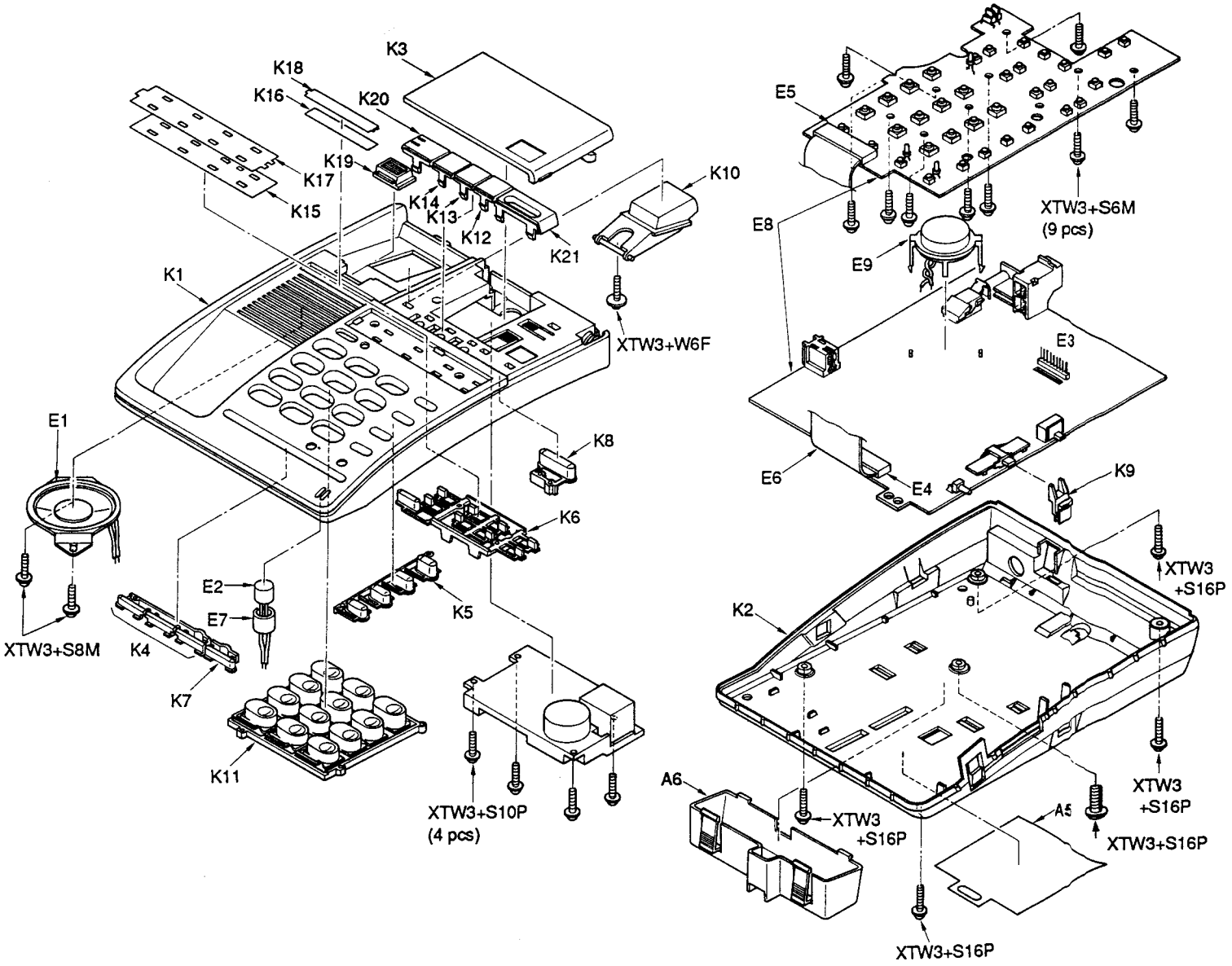


Fig. 18

ACCESSORIES AND PACKING MATERIALS

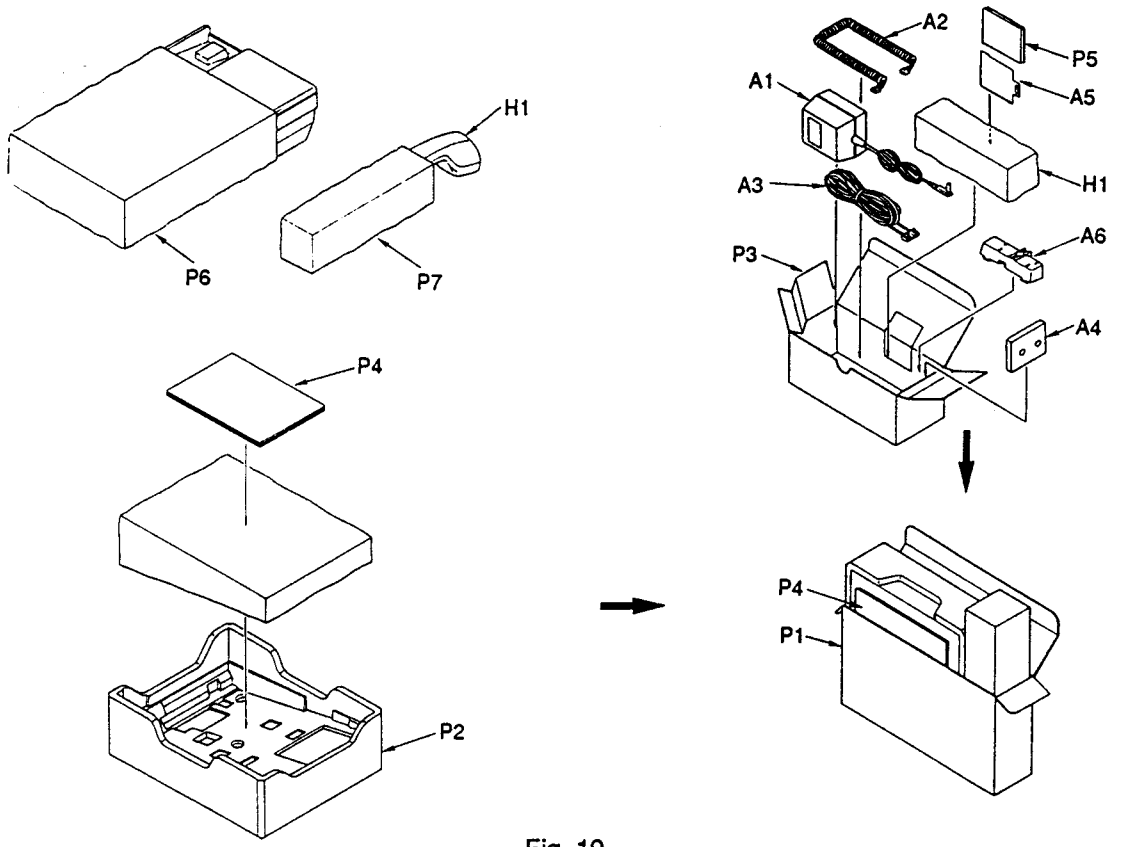


Fig. 19

EXTENSION CORD CONNECTING METHOD

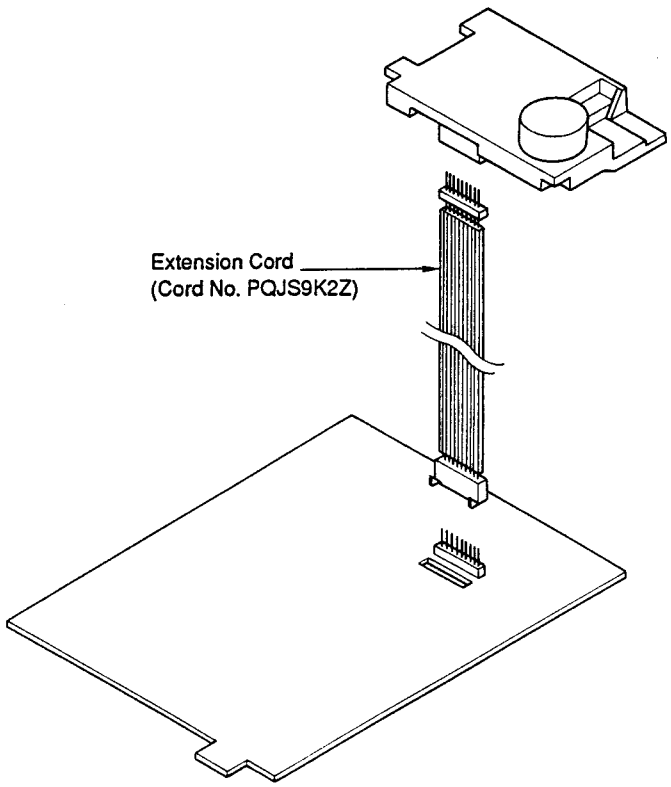


Fig. 20

REPLACEMENT PARTS LIST

Notes: Model KX-T2632

1. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
2. Important safety notice.
   Components identified by the ⚠ mark special characteristics important for safety.
   when replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms(Ω) k=1000Ω,M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P=0.001 μF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	ERDS,PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fusible Resistor
RRD:Chip	ERO:Metal Film	PQ4R:Chip

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,ECBC : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQG : Polyester
PQCBX,ECUV,PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECMS:Mica	EECW : Electric Double Layer

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
CASSETTE DECK PARTS			
M1	PQFM9909Z	Motor Ass'y (with Pulley)	1
M2	PQFD9913Z	Pinch Roller Ass'y	1
M3	PQFF9909Z	Flywheel Ass'y	1
M3-1	PQFN35Z	Washer	1
M4	PQFG9904Z	Gear Ass'y	1
M4-1	PQFN48Z	Washer	1
M5	PQFR9912Z	Takeup Reel Table Ass'y	1
M6	PQFR9913Z	Supply Reel Table Ass'y	1
M7	PQFD82Z	Head Base Plate	1
M8	PQFW42Z	Head Base	1
M9	PQFS73Z	Spring	1
M10	PQJH1M2Z	R/P Head	1
M11	PQJH6M2Z	Erase Head	1
M12	PQFS109Z	Spring	1
M13	PQFS110Z	Spring	1
M14	PQFJ2Z	Terminal	1
M15	PQFC9909Y	Mechanism Chassis Ass'y	1
M16	PQFI14Z	Rubber Parts, Motor Spacer	2
M17	PQUP589Z	Reed Switch P.C.Board	1
M18	PQJS9B30Z	Connector, 9Pin	1
M19	PQFN33Z	Washer (for Oil cut)	2
M20	PQFB12Z	Belt	1
M21	PQFD64Z	Plate Spring	1
M22	PQFS82Z	Spring	2
M23	PQFP126Z	Plunger	1
M24	PQHD15Z	Screw	2
M25	PQFN34Z	Washer (for lock of flywheel)	1

Ref. No.	Part No.	Part Name & Description		Pcs
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES				
IC1	PQVIBA6565A	IC		1
IC2	PQVIUPC358C	IC		1
IC3	MN158413KTV	IC		1
IC4,5	PQVITM41256A	IC		2
IC6	PQVIT6668	IC		1
IC7	AN6180K	IC		1
IC8	PQVIMT8870BC	IC	S	1
IC9	PQVI4042FH93	IC	S	1
IC10	PQVIBA6220	IC		1
IC11	PQVISC7765S	IC		1
IC301	PQVIM7H04F	IC		1
Q1	2SA1625	Transistor(Si)		1 ⚠
Q2	2SD662B	Transistor(Si)		1
Q4,6~8,11,16,21,25-29 34, 36, 37 , 39, 301,302	2SD1819A	Transistor(Si)		18
Q5	2SC2120	Transistor(Si)	S	1
Q9	PQVTBB1L3N	Transistor(Si)		1
Q10,38	UN5213	Transistor(Si)		2
Q12,13	2SD1266	Transistor(Si)		2
Q14,17~19	2SB909M	Transistor(Si)		4
Q15	2SC3330	Transistor(Si)		1
Q20,22	2SC1652	Transistor(Si)		2
Q26,30,31	2SC1740	Transistor(Si)	S	3
Q33	UN5113	Transistor (Si)		1
Q3,23,34, 35	2SB1218A	Transistor(Si)	S	4
D1~4	1SS131	Diode (Si)		4 ⚠
D5	MA4300	Diode(Si)		1 ⚠
D6	PQVDS1YB40F1	Diode (Si)		1 ⚠
D7,9,11,13 ~16,18~22, 28, 35,36, 61, 67,69 , 307	MA165	Diode (Si)		16
D8	MA7051	Diode(Si)		1
D10	MA4180	Diode(Si)		1
D12	MA4062	Diode(Si)		1
D17	PQVDHZ2CLL02	Diode(Si)		1
D24~27,68	1S1588	Diode(Si)		5
D29~31,33, 34	1SS119	Diode(Si)	S	5
D32	PQVDMTZ6R8	Diode (Si)		1
D37	RLS71	Diode(Si)		1
D301	LN368GPXTAB	Diode (Si)		1
D302	LN268RPXTAB2	Diode (Si)		1
D303	LN28RPXUTA4	Diode (Si)		1
D303~306	LN28RPXTA3	Diode (Si)		4
D308,309	PQVDLA301YB	Diode (Si)		2
SWITCHES				
S1	ESE14A211	Switch, Hook		1 ⚠
S2	PQSS3A17W	Switch, Ringer Volume		1
S4	EVQQEJ08Q	Switch, On/Off		1
S7	PQSE91Z	Switch, Reed (for Cassette Deck)		1
S301~S310 S323~S334	EVQQS204B	Switch, REC, OGM, PB, FF, REW, etc		23
SW311~322	PQSH1A33Z	Switch, Dialing		1
JACKS				
JJ1	PQJJ2HA2Z	Jack, Telephone		1
JJ2	PQJJ1TA18Z	Jack, Handset		1

Ref. No.	Part No.	Part Name & Description		Pcs
OTHERS				
SA1	PQVDSAE310F1	Varistor (Surge Absorber)	S	1 ⚠
R60	PQVAM3A14B24	Variable Resisor		1
R61	PQNB3A00B24M	Semi-Fixed Variable Resistor, 20KΩ		1
R301	PQNB3A00B52M	Semi-Fixed Variable Resistor, 500 Ω	S	1
X1,3	PQVBFC3584A1	Ceramic Filter		2
X2	PQVBKBR655B	Ceramic Filter		1
X4	PQVBFC4004A3	Ceramic Filter		1
PC1	PQVIPC817K	Tranducer (Photo Coupler)		1
CABINET PARTS				
K1	PQKM144Z8	Upper Cabinet		1
K2	PQYF1013Z7	Lower Cabinet Assembly		1
K3	PQYQT2632M	Cassette Lid Assembly		1
K4	PQBCX88Z	Button, Flash, Mute, Hold		1
K5	PQBCX89Z	Button, Prog, Auto, Pause/Save, Redial		1
K6	PQBCX90Z	Button, Diarect Call		1
K7	PQBC204Z	Button, Speakerphone		1
K8	PQBC205Z	Button, Playback/Pause		1
K9	PQBD113Z	Knob, Volume		1
K10	PQBE22Z	Button Hook		1
K11	PQBCX87Z	Button, Dialing		1
K12	PQBC206X	Button, Fast/Forward		1
K13	PQBC206Y	Button, Rewind		1
K14	PQBC206Z	Button, Momo		1
K15	PQHP5014Z	Memory Card		1
K16	PQHP532X	Telephone Number Card		1
K17	PQHR5122Z	Transparent Cover (Large)		1
K18	PQHR576Z	Transparent Cover (Small)		1
K19	PQKE46Z	Handset Hanger		1
K20	PQGG67Z	Grille – A		1
K21	PQGG68Z	Grille – B		1
ELECTRICAL PARTS				
E1	PQAS65P19Z	Speaker		1
E2	RJM142Z	Microphone		1
E3	PQJP9D71Z	Connector, 9Pin (CN-1)		1
E4	PQJS38X30Z	Connector, 38Pin (CN-2)		1
E5	PQJS38X31Z	Connector, 38Pin (CN-301)		1
E6	PQJE68Z	Flate Cable		1
E7	PQHG503Z	Rubber Parts, Microphone Cover		1
E8	PQWPT2632M	Main & Operation P.C.Board Assembly (NLA)		1
E9	PQWHT2632M	Buzzer Assembly		1
HANDSET PARTS				
H1	PQJX2PS406W	Handset Assembly (Can't be disassembled)	S	1
JX2PS404W Type				
H1-1	PQYM2PS404W	Lower Handset Cabinet		1
H1-2	PQKF110Z85	Upper Handset Cabinet		1
H1-3	PQWHJX404W	Speaker Assembly		1
H1-4	PQWMJX404W	Microphone Assembly		1
H1-5	PQHG695W	Rubber Cap		2
ACCESSORIES				
A1	KX-A11-W	AC Adaptor		1 ⚠
A2	PQJA30M	Handset Cord		1
A3	PQJA59Y	Telephone Cord	S	1
A4	RT-N30-JT1P	Cassette Tape (MC-30)		1
A5	PQHP5015Z	Name Card		1
A6	PQKL26Z7	Stand		1

Ref. No.	Part No.	Part Name & Description	Pcs
PACKING MATERIALS			
P1	PQPK632Z	Gift Box	1
P2	PQPN881Z	Pad	1
P3	PQPN795Z	Accessory Box	1
P4	PQQX5621Z	Instruction Book	1
P5	PQQX1581Z	Dial Card	1
P6	XZB26X40A01	Protection Cover (for Set)	1
P7	PQPH75Z	Protection Cover (for Handset)	1

Ref No.	Part No.	Value	Ref No.	Part No.	Value
RESISTORS					
R1	ERDS1TJ622	6.2k	R58	PQ4R10XJ472	4.7k
R2	PQ4R10XJ123	12k ⚠	R59	PQ4R10XJ124	120k
R3	PQ4R10XJ334	330k ⚠	R60,61	Not Used	
R4	PQ4R10XJ124	120k	R62	PQ4R10XJ104	100k
R5	PQ4R10XJ223	22k	R63	PQ4R10XJ103	10k
R6	PQ4R10XJ392	3.9k	R64	PQ4R10XJ104	100k
R7	PQ4R10XJ473	47k	R65	PQ4R10XJ104	100k
R8	PQ4R10XJ563	56k	R66	PQ4R10XJ103	10k
R9	PQ4R10XJ683	68k ⚠	R67	PQ4R10XJ104	100k
R10	PQ4R10XJ104	100k ⚠	R68	PQ4R10XJ104	100k
R11	PQ4R10XJ472	4.7k ⚠	R69	PQ4R10XJ474	470k
R12	ERDS1TJ820	82	R70	PQ4R10XJ104	100k
R13	PQ4R10XJ102	1k	R71	PQ4R10XJ102	1k
R14	PQ4R10XJ473	47k	R72	PQ4R10XJ124	120k
R15	PQ4R10XJ103	10k	R73	Not Used	
R16	PQ4R10XJ821	820	R74	PQ4R10XJ123	12k
R17	PQ4R10XJ390	39	R75	Not Used	
R18	PQ4R10XJ150	15	R76	PQ4R10XJ104	100k
R19	PQ4R10XJ102	1k	R77	PQ4R18XJ183	18k
R20	PQ4R10XJ153	15k	R78	PQ4R10XJ102	1k
R21	PQ4R10XJ682	6.8k	R79	PQ4R10XJ104	100k
R22	ERC14GM226	22M	R80	PQ4R10XJ152	1.5k
R23	PQ4R10XJ333	33k	R81	PQ4R10XJ683	68k
R24	PQ4R10XJ473	47k	R82	PQ4R10XJ303	30k
R25	PQ4R10XJ104	100k	R83	PQ4R10XJ683	68k
R26	PQ4R10XJ473	47k	R84	PQ4R10XJ225	2.2M
R27	PQ4R10XJ473	47k	R85	PQ4R10XJ332	3.3k
R28	PQ4R10XJ102	1k	R86	PQ4R10XJ275	2.7M
R29	PQ4R10XJ105	1M	R87	PQ4R10XJ332	3.3k
R30	PQ4R10XJ222	2.2k	R88	PQ4R10XJ472	4.7k
R31	PQ4R10XJ472	4.7k	R89	PQ4R10XJ822	8.2k
R32	PQ4R10XJ335	3.3M	R90	PQ4R10XJ473	47k
R33	PQ4R10XJ470	47	R91	PQ4R10XJ222	2.2k
R34	PQ4R10XJ102	1k	R92	PQ4R10XJ103	10k
R35	PQ4R10XJ103	10k	R93	PQ4R10XJ103	10k
R36	PQ4R10XJ101	100	R94	PQ4R10XJ473	47k
R37	PQ4R10XJ822	8.2k	R95	PQ4R10XJ473	47k
R38	Not Used		R96	PQ4R10XJ473	47k
R39	PQ4R10XJ392	3.9k	R97	PQ4R10XJ473	47k
R40	PQ4R10XJ473	47k	R98	PQ4R10XJ224	220k
R41	PQ4R10XJ472	4.7k	R99	PQ4R10XJ472	4.7k
R42	PQ4R10XJ472	4.7k	R100	ERD16TJ680	68
R43	Not Used		R101	Not Used	
R44	PQ4R10XJ472	4.7k	R102	PQ4R10XJ684	680k
R45	PQ4R10XJ472	4.7k	R103	PQ4R10XJ683	68k
R46	ERD16TJ183	18k	R104	PQ4R10XJ392	3.9k
R47	PQ4R10XJ183	18k	R105	PQ4R10XJ103	10k
R48	PQ4R18XJ562	5.6k	R106	PQ4R18XJ224	220k
R49	PQ4R10XJ103	10k	R107	PQ4R10XJ684	680k
R50	PQ4R10XJ394	390k	R108	PQ4R10XJ105	1M
R51	PQ4R10XJ103	10k	R109	PQ4R10XJ223	22k
R52	PQ4R10XJ104	100k	R110	PQ4R10XJ683	68k
R53	PQ4R10XJ103	10k	R111	PQ4R10XJ104	100k
R54,55	Not Used		R112	PQ4R10XJ472	4.7k
R56	ERD16TJ473	47k	R113	PQ4R10XJ104	100k
R57	PQ4R10XJ103	10k	R114	PQ4R10XJ333	33k

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R115	PQ4R10XJ472	4.7k	R161	PQ4R10XJ473	47k
R116	PQ4R10XJ824	820k	R162	PQ4R10XJ102	1k
R117	PQ4R10XJ473	47k	R163	ERD25TJ120	12
R118	PQ4R10XJ473	47k	R164	PQ4R18XJ103	10k
R119	PQ4R10XJ473	47k	R165	PQ4R18XJ681	680
R120	PQ4R10XJ473	47k	R166	PQ4R18XJ681	680
R121	PQ4R10XJ224	220k	R167	PQ4R10XJ103	10k
R122	PQ4R10XJ335	3.3M	R168	PQ4R10XJ681	680
R123	ERD25TJ185	1.8M	R169	PQ4R18XJ473	47k
R124	Not Used		R170	PQ4R10XJ471	470
R125	PQ4R10XJ333	33k	R171	PQ4R10XJ473	47k
R126	PQ4R10XJ272	2.7k	R172	PQ4R10XJ471	470
R127	PQ4R10XJ222	2.2k	R173	PQ4R10XJ473	47k
R128	PQ4R10XJ2R2	2.2	R174	PQ4R10XJ221	220
R129	PQ4R10XJ334	330k	R175	PQ4R10XJ221	220
R130	Not Used		R176	PQ4R10XJ151	150
R131	Not Used		R177	ERD25TJ220	22
R132	PQ4R10XJ103	10k	R178	ERD25TJ220	22
R133	PQ4R10XJ122	1.2k	R179	PQ4R10XJ103	10k
R134	Not Used		R180	PQ4R10XJ104	100k
R135	Not Used		R181	PQ4R10XJ824	820k
R136	PQ4R10XJ102	1k	R182	PQ4R10XJ332	3.3k
R137	PQ4R18XJ823	82k	R183	PQ4R10XJ332	3.3k
R138	PQ4R10XJ333	33k	R184	PQ4R10XJ185	1.8M
R139	PQ4R10XJ121	120	R185	PQ4R10XJ472	4.7k
R140	PQ4R10XJ122	1.2k	R186	PQ4R10XJ470	47
R141	PQ4R10XJ224	220k	R187	PQ4R10XJ103	10k
R142	PQ4R10XJ153	15k	R188	PQ4R10XJ223	22k
R143	PQ4R10XJ683	68k	R189	PQ4R10XJ102	1k
R144	PQ4R10XJ181	180			
R145	PQ4R10XJ224	220k	R301	Not Used	
R146	PQ4R10XJ473	47k	R302	ERD16TJ681	680
R147	PQ4R10XJ183	18k	R303	ERD16TJ271	270
R148	PQ4R10XJ334	330k	R304	ERD16TJ152	1.5k
R149	PQ4R10XJ680	68	R305	ERD16TJ152	1.5k
R150	PQ4R10XJ333	33k	R306	ERD16TJ152	1.5k
R151	PQ4R10XJ224	220k	R307	ERD16TJ152	1.5k
R152	PQ4R10XJ330	33	R308	Not Used	
R153	PQ410XJ103	10k	R309	ERD16TJ271	270
R154	PQ410XJ103	10k	R310	ERD16TJ271	270
R155	PQ4R18XJ473	47k	R311	ERD16TJ271	270
R156	PQ4R10XJ473	47k	R312	ERD16TJ271	270
R157	PQ4R10XJ104	100k	R313	ERD16TJ271	270
R158	PQ4R10XJ153	15k			
R159	ERDS1TJ391	390	R350	PQ4R10XJ271	27
R160	PQRQ003V100	10	R351	PQ4R10XJ223	22k
			R352	Not Used	
			R353	PQ4R10XJ271	270
			R354	PQ4R10XJ223	22k
			R400	ERD16TJ563 (for Deck)	56k

CAPACITORS

C1	ECQE2105KS	1	C8	ECKD2H681KB	680P ⚠
C2	ECEA1HKS100	10 ⚠	C9	ECKD2H681KB	680P ⚠
C3	ECEA1HKSR22	0.22 ⚠	C10	PQCUV1H223MD	0.022
C4	ECQM1H822JV	0.0082	C11	ECEA0JU331	330
C5	ECEA1CU221	220	C12	PQCUV1H681KC	680P
C6	ECEA1HKS010	1	C13	ECEA1HKS3R3	3.3 S
C7	ECEA1EK470	47	C14	PQCUV1H223MD	0.022

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
C15	PQCUV1H103MD	0.01	C74	PQCUV1H103MD	0.01
C16	PQCUV1H103MD	0.01	C75	ECEA1HKS3R3	3.3
C17	PQCUV1H103MD	0.01	C76	Not Used	
C18	ECEA1CKS100	10	C77	PQCUV1H103MD	0.01
C19	ECUV1H104MD	0.1	C78,79	Not Used	
C20	PQCUV1H153MD	0.015	C80	ECEA0JU682	6800
C21	PQCUV1H103MD	0.01	C81	ECEA1HKS3R3	3.3
C22	PQCUV1C334ZF	0.33	C82	PQCUV1H103MD	0.01
C23	ECEA1AU101	100	C83	PQCUV1H223MD	0.022
C24	PQCUV1C683MD	0.068	C84	ECEA0JK221	220
C25	PQCUV1C683MD	0.068	C85	ECEA0JK221	220
C26	PQCUV1C683MD	0.068	C86	PQCUV1H223MD	0.022
C27	ECEA1CKS100	10	C87	ECEA1CKS470	47 S
C28	ECQM1H473JV	0.047	C88	ECEA0JU471	470
C29	ECQM1H152JV	0.0015	C89	PQCUV1C683MD	0.068
C30	ECQM1H473JV	0.047	C90	EEA1CKS470	47
C31	ECEA1HK4R7	4.7	C91	PQCUV1H223MD	0.022
C32	ECEA1HKS0R1	0.1	C92	PQCUV1H222MD	0.0022
C33	PQCUV1C683MD	0.068	C93	ECEA0JKS220	22
C34	ECEA0JU471	470	C94	ECEA1HK4R7	4.7
C35	PQCUV1E473MD	0.047	C95	ECEA1CK101	100
C36	PQCUV1H103MD	0.01	C96	ECEA1CKS470	47
C37	ECEA0JU471	470	C97	PQCUV1C683MD	0.068
C38	PQCUV1H103MD	0.01	C98	PQCUV1H103MD	0.01
C39	Not Used		C99	PQCUV1H223MD	0.022
C40	PQCUV1H103MD	0.01	C100	ECEA1HKS010	1
C41	ECUV1H104MD	0.1	C101	ECEA1HKS010	1
C42	PQCUV1E104ZF	0.1	C102	PQCUV1E333MD	0.033
C43	ECEA0JU331	330	C103	ECEA1HK4R7	4.7
C44	PQCUV1H101JC	100	C104	PQCUV1C683MD	0.068
C45	ECUV1H104MD	0.1	C105	PQCUV1C683MD	0.068
C46	PQCUV1H101JC	100	C106	PQCUV1H183MD	0.018
C47	PQCUV1H101JC	100	C107	ECUV1H104MD	0.1
C48	ECUV1H104MD	0.1	C108	ECEA1CKS100	10
C49	ECEA0JU331	330	C109	Not Used	
C50	PQCUV1H103MD	0.01	C110	PQCUV1C683MD	0.068
C51	PQCUV1H471JC	470	C111	ECEA1AU221	220
C52	ECEA1HKS010	1	C112	PQCUV1H103MD	0.01
C53	Not Used		C113	ECUV1H104MD	0.1
C54	ECEA1HKS0R1	0.1	C114	PQCUV1E473MD	0.047
C55	ECFD1C104MD	0.1	C115	PQCUV1H103MD	0.01
C56	ECEA1HKSR47	0.47	C116	PQCUV1H153MD	0.015
C57	ECEA1HKS010	1	C117	ECUV1H104MD	0.1
C58	PQCUV1H103MD	0.01	C118~ C120	Not Used	
C59	ECEA0JK221	220			
C60	ECEA1CK101	100	C121	PQCBC1H101KB	100P
C61	ECEA1HK4R7	4.7	C122	Not Used	
C62	ECEA1HK4R7	4.7	C123	Not Used	
C63	ECEA1HKSR22	0.22	C124	ECFD1C104MD	0.1
C64	ECEA1HKSR47	0.47	C125	ECFD1C104MD	0.1
C65	PQCUV1H681KC	680P	C126	Not Used	
C66	PQCUV1H103MD	0.01	C127	PQCUV1H681KC	680P
C67	ECEA0JKS220	22	C128	PQCUV1H472MD	0.0047
C68	ECEA1CKS100	10	C129	PQCUV1C683MD	0.068
C69	ECEA1CKS100	10	C130	PQCUV1H332MD	0.0033
C70	PQCUV1H103MD	0.01	C131	PQCUV1H103MD	0.01
C71	ECEA0JK221	220	C132	PQCBX1C103MY	0.01
C72	ECEA1CKS470	47 S	C133	PQCBX1C103MY	0.01
C73	PQCUV1H103MD	0.01			

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KX-T2632 (M)
Printed in Japan

ORDER NO. KM48904897A3

Service Manual

and Technical Guide

EASA-PHONE
INTEGRATED TELEPHONE SYSTEM

Telephone Equipment

KX-T2632B

- Please use this manual together with the service manual for model No. KX-T2632 order No. KM48806698C1.
- This Service Manual Indicates the main differences between; Original KX-T2632 and KX-T2632B.

CHANGES

■ REPALCEMENT PARTS LIST

Ref. No.	Part Name & Description	Part No.		Pcs/Set	Note
		KX-T2632	KX-T2632B		
M15	Mechanism Chassis Ass'y	PQFC9909Y	**PQFC9909X**	1	
M23	Plunger	PQFP126Z	**PQFP126Y**	1	
M25	Washer (for lock flywheel)	PQFN34Z	**PQFN49Z**	1	
IC3	IC	MN158413KTV	**MN158413KPA**	1	
IC11	IC	PQVISC7765S	**PQVISC77655S**	1	
Q201	Transistor (Si)	------	**2SD1819A**	1	Addition
D303	Diode (Si) (LED)	LN28RPXUTA4	**LN28RPL**	1	
K1	Upper Cabinet Assembly	PQKM144Z8	**PQYMT2632BX**	1	
K2	Lower Cabinet Assembly	PQYF1013Z7	**PQYFT2632BX**	1	
K2-1	Name Plate	------	**PQGT433Y**	1	Addition
K15	Memory Card	PQHP5014Z	**PQHP5014X**	1	
E8	Main & Operation P.C.Board Assembly (NLA)	PQWPT2632M	-------	0	Deletion
H1	Handset Assembly	PQJX2PS406W	**PQJX2PS403Y**	1	
H1-1	Lower Handset Cabinet	PQYM2PS404W	**PQKM127L85**	1	
H1-3	Speaker Assembly	PQWHJX404W	**PQAX4P03Z**	1	
H1-4	Microphone Assembly	PQWMJX404W	**PQWMJX403Y**	1	
H1-5	Rubber Cap	PQHG695Z	**PQHG695W**	1	
H1-6	Weight	------	**PQHM32Y**	1	Addition
A1	AC Adaptor	KX-A11-W	**KX-A11BX**	1	
A7	Plug	------	**RJP120ZS**	1	Addition
A8	Jack, Telephone (2 wires)	------	**PQJJ1TA8Z**	1	Addition
P1	Gift Box	PQPK632Z	**PQPK784Z**	1	
P3	Accessory Box	PQPN795Z	**PQPN980Z**	1	
P4	Instruction Book	PQQX5621Z	**PQQX5702Z**	1	
R29	Carbon Film Resistor, 470kΩ	PQ4R10XJ105	**PQ4R10XJ474**	1	
R33	Carbon Film Resistor, 220Ω	PQ4R10XJ470	**PQ4R10XJ221**	1	
R37	Carbon Film Resistor, 1.5kΩ	PQ4R10XJ822	**PQ4R10XJ152**	1	
R39	Carbon Film Resistor, 3.9kΩ	PQ4R10XJ392	-------	0	Deletion
R40	Carbon Film Resistor, 10kΩ	PQ4R10XJ473	**PQ4R10XJ103**	1	
R56	Carbon Film Resistor, 47kΩ	ERD16TJ473	**PQ4R10XJ473**	1	
R74	Carbon Film Resistor, 18kΩ	PQ4R10XJ123	**PQ4R10XJ183**	1	
R100	Carbon Film Resistor, 68Ω	ERD16TJ680	**PQ4R10XJ680**	1	
R201	Carbon Film Resistor, 5.6kΩ	------	**PQ4R10XJ562**	1	Addition
R202	Carbon Film Resistor, 1.5kΩ	------	**PQ4R10XJ152**	1	Addition
R203	Carbon Film Resistor, 1.5MΩ	------	**PQ4R10XJ155**	1	Addition
R204	Carbon Film Resistor, 220Ω	------	**PQ4R10XJ221**	1	Addition
R205	Carbon Film Resistor, 4.7kΩ	------	**PQ4R10XJ472**	1	Addition
C19	Chip, 0.0039μF	ECUV1H104MD	**ECUV1H392MD**	1	
C20	Chip, 0.001μF	PQCUV1H153MD	**PQCUV1H102MD**	1	
C22	Chip, 0.068μF	PQCUV1C334ZF	**PQCUV1C683MD**	1	

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

Ref. No.	Part Name & Description	Part No.		Pcs/Set	Note
		KX-T2632	**KX-T2632B**		
C26	Chip, 0.068µF	PQCUV1C683MD	-------	0	Deletion
C132	Chip, 0.01µF	PQCBX1C103MY	**PQCUV1H103KB**	1	
C133	Chip, 0.0047µF	PQCBX1C103MY	**PQCUV1H472KB**	1	
C201	Chip, 0.033µF	------	**PQCUV1E333MD**	1	Addition
C202	Chip, 0.047µF	------	**PQCUV1E473MD**	1	Addition

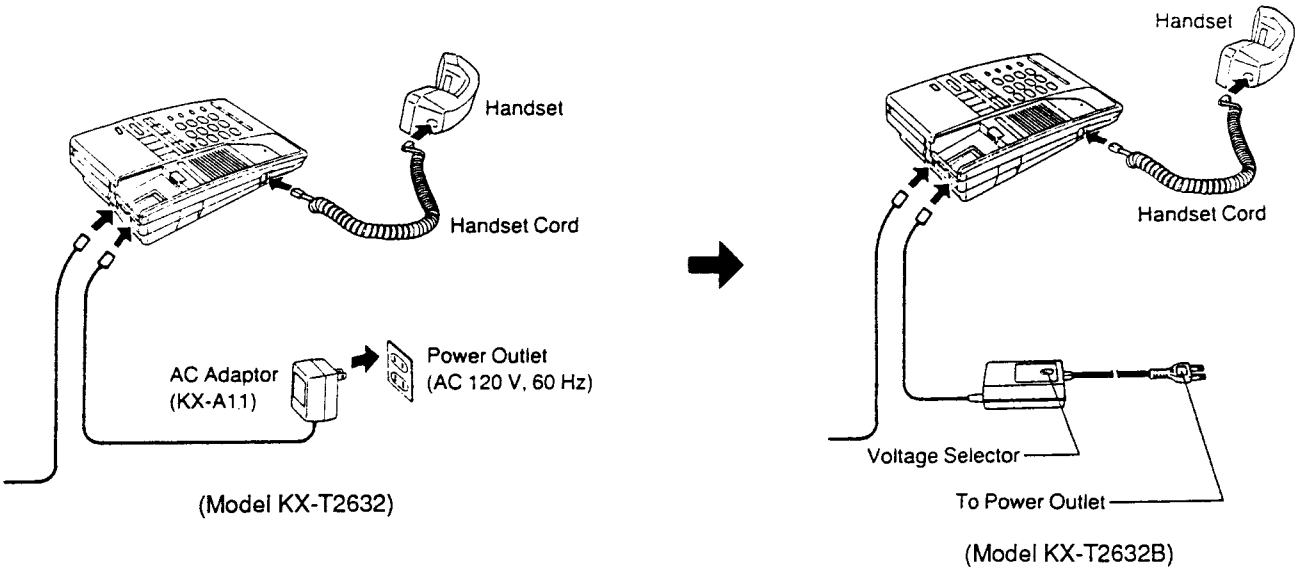
■ CPU DATA (Page 8)

IC3 MN158413KTV
(Model KX-T2632)

➡

IC3 MN158413KPA
(The contents of data does not change.)
(Model KX-T2632B)

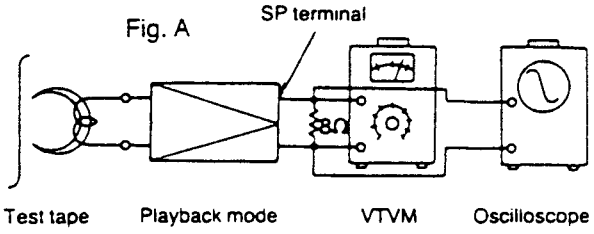
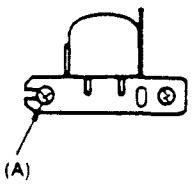
■ CONNECTION (Page 15)



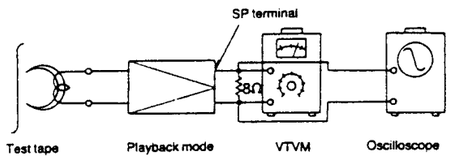
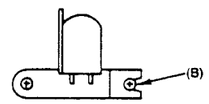
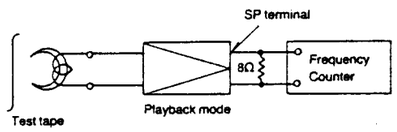
(Model KX-T2632)

(Model KX-T2632B)

■ MEASUREMENT AND ADJUSTMENT METHOD (Page 16)

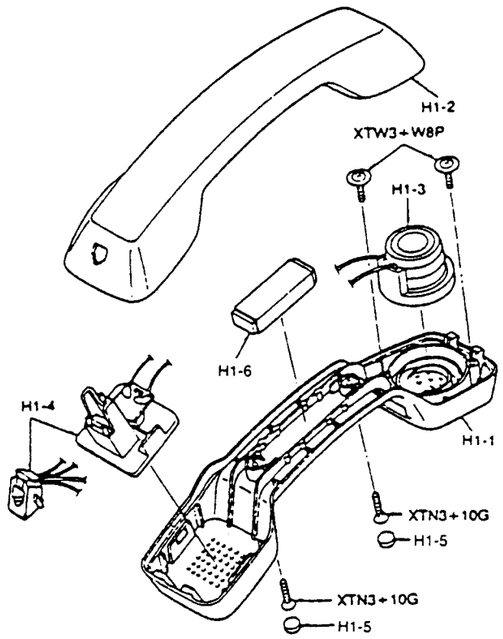
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Head azimuth adjustment	**A. Record/playback head for incoming message cassette** 1. Playback test tape (QZZCWAT 3 kHz) 2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.) Fig. A  **B. Record/Playback head for outgoing message cassette** 1. Playback test tape (PQJN17Z 3 kHz) 2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown in fig. A)	·Record/playback head for incoming message and outgoing message.  Fig. B

(Model KX-T2632)

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
1. Head azimuth adjustment	1. Play back test tape (QZZMWA). 2. Adjust screw (B) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.) 	*Record/playback head  Fig. B
2. Tape speed adjustment	1. Play back test tape (QZZMWA). 2. Adjust VR501 for 2980–3000 Hz on frequency counter reading. 	

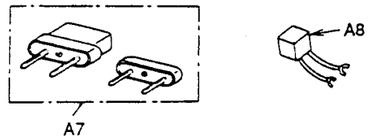
(Model KX-T2632B)

■ HANDSET PARTS LOCATION (Page 16)



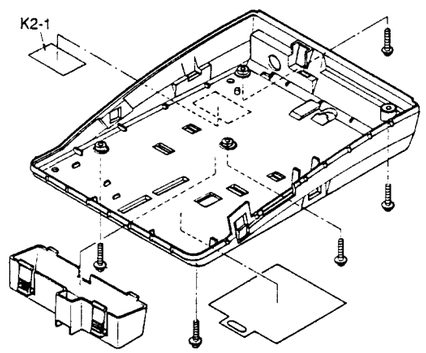
(Model KX-T2632B)

■ ACCESSORIES & PACKING MATERIALS (Page 48)



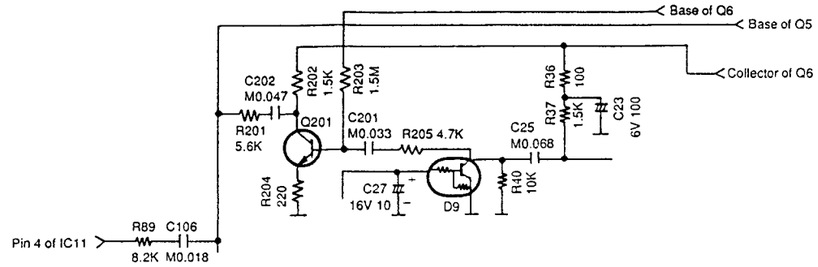
(Model KX-T2632B)

■ CABINET AND ELECTRICAL PARTS LOCATION (Page 47)



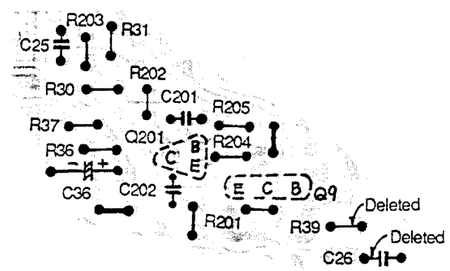
(Model KX-T2632B)

■ SCHEMATIC DIAGRAM



(Model KX-T2632B)

■ CIRCUIT BOARD AND WIRING CONNECTION

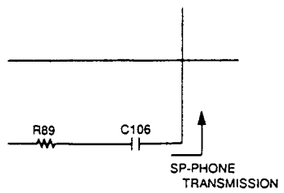


(Model KX-T2632B)

■ CIRCUIT OPERATION

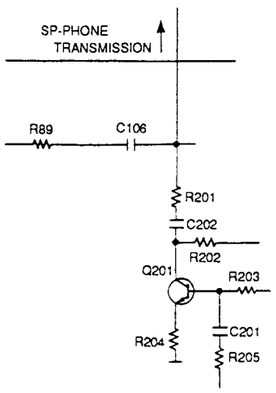
• SPEAKERPHONE CIRCUIT (Page 34, 35)

Circuit Diagram



(Model KX-T2632)

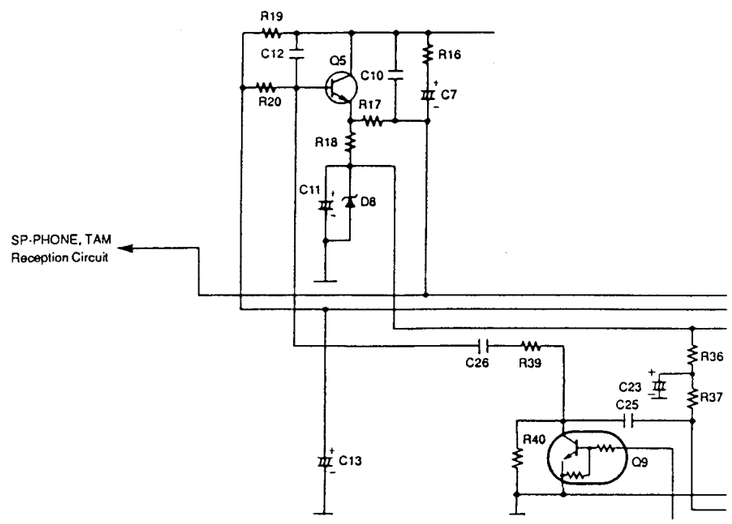
Circuit Diagram



(Model KX-T2632B)

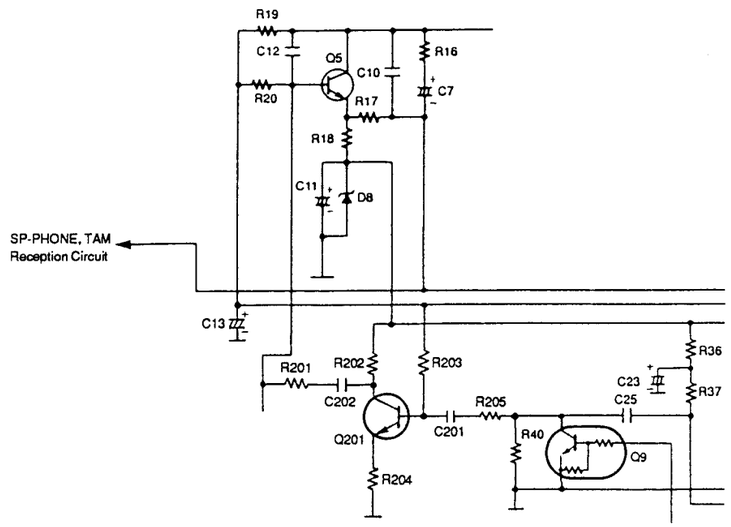
• HANDSET TRANSMISSION, RECEPTION AND DTMF SIGNAL OUTPUT CIRCUIT (Page 24, 25)

Circuit Diagram



(Model KX-T2632)

Circuit Diagram



(Model KX-T2632B)

Y (F)
KX-T2632B (X)
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